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ABSTRACT

This report compares selected estimates from the two components of the 1995 National Household Education Survey (NHES:95) with estimates from other survey data. The two different components of the NHES:95, the Adult Education (AE) and the Early Childhood Program Participation (ECPP) components, cover a variety of topics related to participation in educational activities for adults and children. The various data sources (National Center for Education Statistics surveys and U.S. Census figures) used in this comparative report were chosen because they included recent topical information and populations as similar as possible to those in the NHES:95. Similarities and differences between estimates from the NHES:95 and other sources are discussed. Estimates from the NHES:95 AE component for participation rates in adult education are generally higher than those of previous data collections for the NHES, but for demographic characteristics, employment, and labor force status, the estimates are generally very similar to those for the Current Population Survey of the Census. Estimates from the NHES:95 regarding children's early educational experiences and participation in nonparental care and programs are generally quite similar to comparable estimates from other surveys. Differences that were observed were primarily attributed to differences in the wording of questions or in operational definitions. An appendix presents, in table form, a summary of the comparative data sets. (Contains 24 tables and 11 references.) (SLD)

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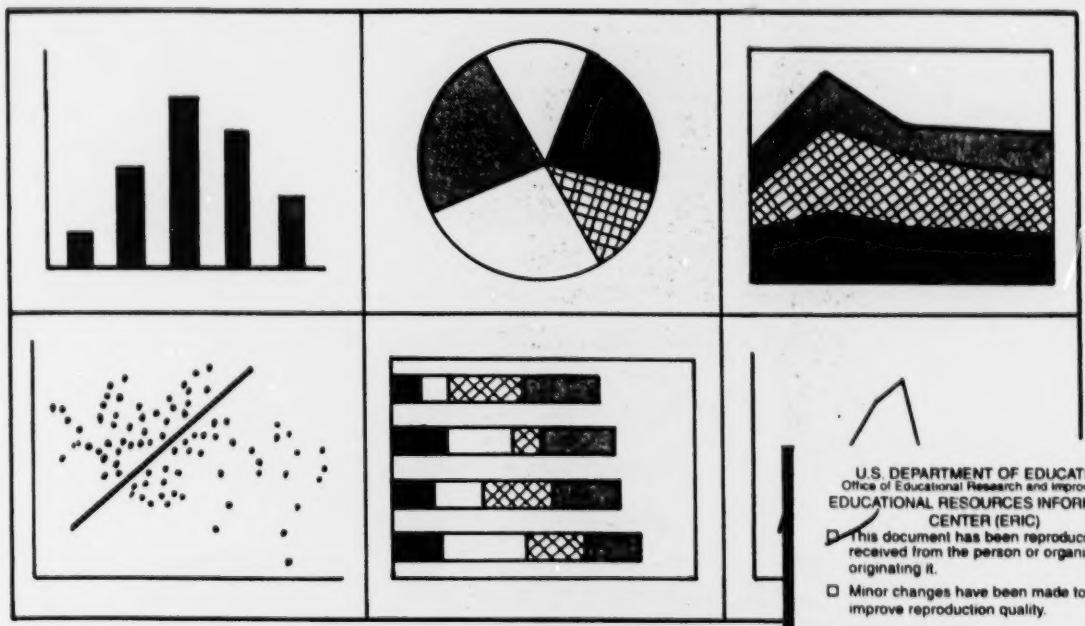

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Comparison of Estimates from the

1995 National Household Education Survey (NHES:95)

Working Paper No. 96-30

December 1996

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Foreword

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1995 National Household Education Survey (NHES:95)

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December 1996

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Introduction

The purpose of this report is to compare selected estimates from the two components of the 1995 National Household Education Survey (NHES:95) with estimates from other survey data. The two different components of the NHES:95, the Adult Education (AE) component and the Early Childhood Program Participation (ECPP) component, cover a variety of topics concerning participation in educational activities among both adults and children. As a result, no single data source can be used for comparative purposes. In fact, information collected in the AE component is so unique that finding comparable data sources was quite difficult. The various data sources used for this comparative report were chosen because they included recent topical information and populations as similar as possible to those in the NHES:95.

In this report, the similarities and differences between estimates from the NHES:95 and other data sources are discussed. For any observed differences, the effects of the NHES:95 methodology, operational definitions, and question wording are discussed as possible sources of differences.

Data Sources Used for the Comparisons

Data from the following sources were used for comparison with the NHES:95 data:

- The October 1992, October 1993, and March 1994 Supplements to the Current Population Survey (CPS);
- The 1991 and 1993 National Household Education Surveys (NHES:91, NHES:93);
- The 1995 National Household Education Survey, Splice Sample (NHES:95 Splice);
- Integrated Postsecondary Education Data System (IPEDS);[1]
- Adult Education Program Facts, 1992-1993;[2]

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[1]The IPEDS data used in this report were published in U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. (1994). *Digest of Education Statistics 1994*. (NCES 94-115). Washington, D.C.

[2]Adult Education Program Facts, 1992-1993, a report by Division of Adult Education and Literacy, U.S. Department of Education.

- The 1990 National Child Care Survey (NCCS);[3] and
- The Child Care module of the 1991 Survey of Income and Program Participation (SIPP).[4]

Appendix A contains summary descriptions of each of these survey data sets. Each description contains information about the topics and populations covered, sample sizes, methods of survey design and administration, dates and periodicity of the surveys, and sponsorship of the studies. Estimates from the NHES:95, NHES:93, NHES:91, and the CPS supplements contained in this report were generated from the respective data files; estimates from the IPEDS, the Adult Education Program Facts, NCCS, and SIPP were derived from published sources.

Methodological Considerations in Data Comparisons

Population coverage, methods of survey administration, the timing of surveys, and response rates all have methodological impacts on the data collected and any comparisons made (Bradburn 1983; Groves 1989). In addition, question wording variation, question order, question context, and respondent recall can have a major impact on survey responses (Bradburn 1983; Brick et al. forthcoming; Groves 1989). As a result, it is important to discuss some general methodological issues.

One issue is population coverage, particularly for telephone surveys like the NHES:95. Population coverage is an issue that arises in the examination of results of any telephone survey since households without telephones are excluded from the sample. Approximately 6 percent of adults aged 16 years or older (and not enrolled in elementary or secondary school) and about 10 to 11 percent of children age 10 or younger live in households without telephones. Low-income persons, minority group members, and persons who do not own their homes are more likely than others to live in nontelephone households (Groves and Kahn 1979; Thornberry and Massey 1988).

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[3]The NCCS data used in this report were published in Sandra L. Hofferth, April Brayfield, Sharon Diech, and Pamela Holcomb. (1991). *National Child Care Survey, 1990.* Urban Institute Report 91-5. Washington, D.C.: The Urban Institute Press.

[4]The SIPP data used in this report were published in Lynne M. Casper, Mary Hawkins, and Martin O'Connell. (1994). *Who's Minding the Kids? Child Care Arrangements: Fall 1991.* U.S. Bureau of the Census, Current Population Reports, P70-36. U.S. Government Printing Office, Washington, D.C.

The NHES:95 data were statistically adjusted to reduce the bias resulting from telephone undercoverage. As a result, the estimates from the NHES:95 sum to the total number of persons in all households, not just those in households with telephones.[5] Although these statistical adjustments may be very useful in reducing biases in aggregates for the whole population, more serious biases may exist for estimates of segments of the population with relatively low telephone coverage rates (Brick, forthcoming).

Apart from population coverage, responses to survey items can vary substantially depending upon the method of survey administration. Data collection modes differed for several of the survey sources used in this report. For instance, the NHES:95, NHES:93, NHES:91, and NCCS were conducted by telephone in a centralized facility. The CPS surveys were primarily conducted by telephone from interviewers' homes, but about one-fourth to one-third of CPS interviews were conducted in-person. The SIPP data are collected through in-person interviews at respondents' homes in most cases; however, for panel members who moved outside a 100-mile radius of their original sampling area, the data were collected by telephone. These differences in mode may underlie some of the differences across survey estimates that are presented in this report.

Another important consideration is the time of the year when the data are collected, which can affect responses to questions related to specific topics, such as school attendance. For example, the relationship between age and grade in school can be affected by the time of year data are collected. A child at a given age in October (the time of the CPS Education Supplement) is most likely enrolled in the grade appropriate for his or her age during the Fall. About one-sixth of those children, however, will have turned a year older by the new year, and will be shown in the NHES:95 as being a year older. Where appropriate, the NHES:95 estimates have been adjusted to account for this discrepancy in the timing of the surveys. Nevertheless, it is important to keep in mind that the data collection period can be an important factor to consider when comparing estimates.

Variation in response rates across surveys can also result in different estimates. To the extent that nonrespondents are different from respondents, low response rates may introduce biases into the survey estimates. The response rates for all of the surveys used for this report range from 57 percent to 94 percent. The response rate for the NHES:95 AE component was 59 percent; for the ECPP

[5]Similar statistical adjustments were made for the NHES:93 and the NHES:91 data.

component, it was 66 percent. Information about response rates is also included in the comparative survey descriptions in Appendix A.

Variations in question wording and operational definitions between surveys are other potential sources of discrepancies between estimates. This issue is discussed in conjunction with the individual tables for the ECPP component presented in this report. For a detailed treatment of this issue for the AE component, see *Measuring Participation in Adult Education* (Collins et al. forthcoming).

Significance Testing

Wherever possible, comparisons in this report were examined to ensure that the differences discussed were statistically significant at the 95 percent level of confidence. For comparisons in which NHES:95 data and data from previous NHES studies are involved, the standard errors of estimates could be estimated and are provided in the tables. However, in cases where estimates were derived from other comparative data sources, the significance level had to be approximated. This was only necessary for comparisons involving the ECPP component because most comparisons of AE component data with the CPS data yielded similar estimates so that no significance tests were necessary. For other AE estimate comparisons, standard errors for estimates from other data sources were not available. More details regarding the methods for significance testing of ECPP component comparisons are given later in the section discussing the ECPP data comparisons.

Other Data Considerations

NHES:95 AE and ECPP Imputation. As is true for most surveys, responses were not obtained for all the NHES:95 data items for all interviews. Despite the high item response rate, all NHES:95 missing data items were imputed.[6] As for the comparison data sources, data were also imputed for the SIPP, but not for the NCCS or CPS October supplements. The NHES:95 ECPP and AE estimates provided in this report use imputed data.

[6]The median item response rate for imputed items in both the AE and ECPP surveys was slightly over 98 percent.

NHES:95 AE credential program participation. The comparison of the NHES:95 AE credential estimates with those of other data sources is particularly problematic. In the higher education sector and much of the vocational sector, programs operate on traditional school schedules, with academic years starting in the fall. The NHES:95 collects information on participation over the period of 12 months, and therefore includes participation in the spring, summer, and fall sessions of 1994 and the spring of 1995. Data available from IPEDS includes estimates of fall enrollment and unduplicated counts over the period of one academic year, neither of which is comparable to the NHES:95. However, these data are presented in this report in order to illustrate how the NHES:95 estimates differ from other data sources.

NHES:95 ECPP Parents/Guardians. In the NHES:95 ECPP component, data were collected about the child's parents/guardians who reside in the household. The items concerning the mother appeared whenever a member of the household was reported as the child's mother, whether she was reported as the birth, adopted, step, or foster mother. When no person residing in the household was designated as the child's mother, data on parent characteristics (i.e., education and labor force participation) were collected about the female respondent. For the ECPP component, in about 2 percent of cases (n=304) there was no mother and no female guardian respondent in the household. It is also important to note that the parent or guardian who was identified as the most knowledgeable was designated as the respondent for the interview about the sampled child. In most cases (about 80 percent), the respondent was the child's mother.

In contrast, for the SIPP, the Child Care component was administered only for children who lived with a mother or female guardian; those living with their fathers or male guardians only are not included. Information on children's care arrangements was collected from the mothers or female guardians in all cases. For the NCCS, interviewers were instructed to conduct interviews with the mothers of children when possible. Otherwise, another parent or responsible adult willing to do the survey was the designated respondent. There were no restrictions on survey participation regarding whether or not the mother was present in the household.

This report does not attempt to compare estimates according to the relationship of the respondent to the child or according to whether the child's mother is present in the household. While it is not known how these factors would affect data comparisons, it is expected that the comparisons in this report would not be substantially affected by the differences outlined above, since most children do live with their mothers, and in each data set the majority of respondents were the children's mothers.

NHES:95 ECPP Age Ranges. For the ECPP component, data were collected about children aged 0 to 10 and in the 3rd grade or below. The number of children 9 and 10 years old and in 3rd grade or below is relatively small. For comparative purposes, either grouped age categories were used or the NHES:95 data were adjusted so as to match the comparative data sample as closely as possible.

The NHES:95 Adult Education Component Comparisons

The data comparisons for the AE component of the NHES:95 include AE participation rates, demographic characteristics of adults, and labor force status. In addition, comments from a number of adult education experts were cited in this report because there are few directly comparable data for comparisons of the types of AE participation. Brief descriptions of the data sources used for the AE comparisons are as follows.

The Current Population Survey (CPS)

The Current Population Survey (CPS) is conducted monthly to provide estimates of employment, unemployment, and other characteristics of the labor force. The U.S. Department of Education is a sponsor of the annual October supplement to the CPS, which provides specific information on educational topics. Also, each March, the CPS collects additional information concerning work experience, income, non-cash benefits, and migration.

The October 1992 CPS data are the most recent CPS data available for comparison with estimates of AE participation from the NHES:95 AE component. The 1992 CPS used the participation items that were used in the NHES:91 AE component. The March 1994 CPS data are used to compare estimates of age, race/ethnicity by educational attainment, industry, and occupation because the 1994 CPS is closer in time to the NHES data collection.

The 1991 National Household Education Survey (NHES:91)

Data collected in the NHES:91 provide information on AE participation rates by a number of demographic characteristics, such as age, gender, race/ethnicity, household income, marital status, highest credential attained, and years of school completed. The NHES:91 AE component contained a sample of 12,568 adults aged 16 and older, not enrolled in elementary or secondary school at the time of the interview.

The 1995 National Household Education Survey, Splice Sample Interview

The Splice Sample Interview of the 1995 National Household Education Survey was conducted to evaluate the difference in the AE participation rates as estimated from the NHES:91 and the NHES:95, especially due to the different screening procedures in these surveys. The Splice Sample Interview included a sample of 3,569 adults. The initial questions of the NHES:91 AE component were asked of the sampled adults and only one adult was selected for interview from each sampled household.

Integrated Postsecondary Education Data System (IPEDS)

The Integrated Postsecondary Education Data System (IPEDS) surveys are conducted annually to collect various data from all postsecondary education institutions. The Fall Enrollment Survey of the 1992-93 IPEDS collected data on student access to postsecondary education. The 1992-1993 IPEDS data were published in 1994 and were the most recent information available when analyses were conducted for this report. Estimates of adults participating in credential programs were compared to those from the NHES:95 AE component.

Adult Education Program Facts

Each year the Office of Vocational and Adult Education (OVAE) of the U.S. Department of Education publishes an annual fact sheet reporting estimates of adults who took part in adult basic education (ABE), adult secondary education (ASE), or English as a Second Language (ESL) programs. OVAE collects AE participation information exclusively from adult education programs that receive federal funding. The OVAE's 1993 estimates of adults participating in ABE and ESL programs were compared to those from the AE component of NHES:95.

Adult Education Component Findings

The data comparisons for the AE components cover most of the major topics included in the questionnaire. The estimates compared below include AE participation rates, demographic characteristics of adults, and labor force status. Comments from adult education experts were also included.

Participation rates, by demographic characteristics

This section provides estimates concerning participation rates in adult education activities. However, there are few data sources for comparing participation rates in AE particularly from individual respondents. Table 1 shows estimates of participation rates from the October 1992 CPS supplement, the NHES:91 AE, and the NHES:95 Splice Sample Interview. For the NHES:95 AE component and the NHES:95 Splice Sample Interview, the estimates of AE participation rates are nearly identical. However, the estimates of participation in the NHES:95 are about 7 percent higher than those in the NHES:91. Since the AE Splice interview repeated the NHES:91 participation questions, the observed higher participation rate in the NHES:95 cannot be attributed to differences in measurement (i.e., changes to the instrument). This discrepancy may be largely related to changes in adults' participation in training, retraining, and other educational activities over the four years since 1991.

Table 1.--NHES:95, NHES:95 AE Splice, 1992 CPS, and NHES:91 estimates of adults participating in adult education

Types of AE participation	NHES:95 Estimate	Splice Estimate	CPS:92 Estimate	NHES:91 Estimate
Total number of adults[1] (000's)	189,576	189,912	184,553	181,800
Participation in any adult education, including full-time credential programs only	44.3	44.6	24.2	37.9
Participation in adult education, excluding full-time credential programs only[2]	40.2	40.0	19.5	32.0

[1]Includes civilian, noninstitutionalized adults, age 16 or older, not enrolled in elementary or secondary school at the time of the interview.

[2]Includes adult basic education, GED preparation classes, ESL classes, credential programs, apprenticeship programs, work-related education or training, and other formal structured AE activities.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995, 1995 Splice Sample Interview, 1991. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Education Supplement, 1992.

The participation rates estimated in the 1992 CPS are substantially lower than those of any NHES collection. These differences are so large that they do not appear to be the result of nonresponse or coverage bias (no other estimates have differences of this size). We suspect that the design and procedures are responsible for a large amount of the differences. An in-depth analysis of issues associated with measuring participation is the subject of a technical report, *Measuring Participation in Adult Education* (Collins et al. forthcoming).

Table 2 shows overall participation rates in adult education activities from the NHES:91 and the NHES:95 by a number of demographic characteristics. As shown, overall estimates of participation in the NHES:95 are higher than those in the NHES:91 (40 percent compared to 32 percent). These tables also show that the patterns of the relationships between AE participation and several specific characteristics are consistent between the NHES:91 and the NHES:95. Specifically, it is observed that participation rates decline as age increases, with people age 55 to 64 and people 65 and older being less likely to participate than younger adults. AE participation is found to be positively associated with income, highest degree, and years of schooling. In addition, persons who are separated, divorced, or widowed (marital status of "other") have lower participation rates than other adults in both survey years.

While the NHES:91 participation rates for males and females are virtually identical, the NHES:95 shows a small but significant gender difference, with participation being slightly higher for males (42 percent) than females (38 percent). In the NHES:91, white adults were more likely to participate than black adults. This difference is smaller in the NHES:95 and is not significant.

Table 3 shows participation rates for persons 17 years and older who are currently employed. These rates are higher than those for all adults. This is reasonable because work-related adult education is one of the two most common types of AE. The results show that the relative rates of participation across occupations are similar; that is, there are few observed large shifts in which occupations have higher or lower participation rates. There are two exceptions; large increases in participation were found among those in administrative support and service occupations. Since approximately the same percentages of adults were coded in each occupation category in the NHES:91 and the NHES:95, this change in participation rates may reflect training in the use of new products or technologies, for example, computer software for administrative applications.

Table 2.--NHES:95 and NHES:91 estimates of the percent of adults participating in adult education, by characteristics of adults

Adult characteristics	Number (000's)	AE participants in the past year			
		Number (000's)	s.e.	Rate	s.e.
NHES:91					
Total adults*	181,800	57,391	1,169	32	0.7
Age					
17-24 years	21,688	7,125	311	33	1.4
25-34 years	47,244	17,530	870	37	1.9
35-44 years	38,565	17,083	759	44	2.1
45-54 years	25,375	8,107	389	32	2.2
55-64 years	19,967	4,516	419	23	2.1
65 years and over	28,960	3,031	322	10	1.3
Gender					
Male	82,154	25,923	842	32	1.1
Female	99,646	31,469	831	32	1.0
Race-ethnicity					
White, non-Hispanic	143,144	47,401	1,115	33	0.8
Black, non-Hispanic	20,141	4,586	419	23	2.0
Hispanic	13,804	4,032	345	29	2.6
Other races, non-Hispanic	4,711	1,371	139	29	3.5
Household income					
$10,000 or less	27,504	3,843	344	14	1.3
$10,001 to $15,000	15,465	3,178	332	21	2.5
$15,001 to $20,000	16,117	3,308	256	21	2.2
$20,001 to $25,000	16,092	4,063	381	25	3.1
$25,001 to $30,000	17,973	5,445	302	30	2.4
$30,001 to $40,000	26,110	9,043	520	35	1.8
$40,001 to $50,000	21,303	9,313	542	44	1.9
$50,001 to $75,000	24,540	11,235	547	46	2.0
More than $75,000	16,695	7,963	567	48	3.1
Marital status					
Never married	36,652	11,539	494	31	1.3
Currently married	118,397	39,323	1,006	33	0.9
Other	26,752	6,529	369	24	1.8
Highest credential attained					
Less than high school	28,306	3,437	412	12	1.6
High school diploma	110,384	31,602	913	29	0.9
Associate's degree	5,034	2,461	173	49	5.8
Bachelor's degree	38,076	19,891	786	52	2.0
Years of school completed					
Up to eighth grade	10,163	735	124	7	1.4
Ninth to eleventh grade	17,581	2,520	363	14	2.3
Twelfth grade	67,129	15,077	685	22	1.1
Vocational school after high school	6,994	2,219	258	32	3.8
Some college	36,823	14,488	485	39	1.6
Associate's degree	5,034	2,461	173	49	5.8
Bachelor's degree or higher	38,076	19,891	786	52	2.0

Table 2.--NHES:95 and NHES:91 estimates of the percent of adults participating in adult education, by characteristics of adults--Continued

Adult Characteristic	Number (000's)	AE participation in the past year			
		Number (000's)	s.e.	Rate	s.e.
NHES:95					
Total adults*	189,543	76,261	920	40	0.5
Age					
17-24 years	22,407	10,539	289	47	1.1
25-34 years	40,326	19,508	449	48	.9
35-44 years	42,304	20,814	450	49	.9
45-54 years	31,807	14,592	428	46	1.2
55-64 years	21,824	6,117	268	28	1.1
65 years and over	30,876	4,691	304	15	1.0
Gender					
Male	90,256	34,450	583	38	.6
Female	99,287	41,811	593	42	.6
Race-ethnicity					
White, non-Hispanic	144,587	59,982	773	41	.5
Black, non-Hispanic	20,806	7,704	302	37	1.5
Hispanic	15,689	5,281	187	34	1.2
Other races, non-Hispanic	8,461	3,294	210	39	2.1
Household income					
$10,000 or less	30,198	6,883	305	23	1.0
$10,001 to $15,000	13,523	3,610	245	27	1.6
$15,001 to $20,000	13,116	4,176	226	32	1.5
$20,001 to $25,000	13,812	4,339	173	31	1.3
$25,001 to $30,000	16,386	6,208	318	38	1.5
$30,001 to $40,000	28,628	12,220	356	43	.9
$40,001 to $50,000	20,446	9,567	331	47	1.4
$50,001 to $75,000	29,161	15,169	460	52	.9
More than $75,000	24,274	14,089	369	58	1.3
Marital status					
Never married	38,627	17,094	398	44	.8
Currently married	114,678	48,200	731	42	.6
Other	36,238	10,967	400	30	1.1
Highest credential attained					
Less than high school	29,670	4,692	302	16	1.1
High school diploma	103,363	38,891	636	37	.6
Associate's degree	9,975	5,601	226	56	1.8
Bachelor's degree	46,535	27,078	597	58	1.0
Years of school completed					
Up to eighth grade	13,581	1,469	148	11	1.1
Ninth to eleventh grade	18,900	4,227	284	22	1.5
Twelfth grade	61,635	19,049	560	31	.8
Vocational school after high school	4,485	1,859	129	42	2.8
Some college	34,433	16,978	374	49	.9
Associate's degree	9,975	5,601	226	56	1.8
Bachelor's degree or higher	46,535	27,078	597	58	1.0

*Includes civilian, noninstitutional adults, age 17 or older, not currently enrolled in elementary or secondary school at the time of the interview.

NOTE: s.e. is standard error. Adult education as defined here includes all non-full-time educational activities such as part-time college attendance, classes or seminars related to work, and classes taken for adult literacy purposes, or for recreation or enjoyment. Detail may not add to totals due to rounding.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1991, 1995.

Table 3.--NHES:95 and NHES:91 estimates of the percent of employed adults, 17 years and older, who took adult education during the previous 12 months, by occupation

	NHES:91		NHES:95	
	Estimate	s.e.	Estimate	s.e.
Number of adults* (000's)	105,045	--	113,084	--
All employed adults	41	1.1	53	0.6
By white-collar occupation:				
Teachers, except college	69	6.3	81	2.0
College teachers	55	9.4	58	5.3
Health diagnosing	74	18.0	75	6.3
Health assessment, treatment	75	8.5	90	2.1
Executive, administrative, and managerial	60	3.5	57	1.9
Technical and related support	67	7.3	72	2.2
Sales workers	43	3.4	48	1.4
Administrative support, including clerical	38	2.5	55	1.4
Service	27	3.0	50	1.6
By blue-collar occupation:				
Agricultural, forestry, and fishing	10	3.6	27	3.9
Precision production, craft, and repair	34	4.3	44	1.7
Machine operators, assemblers, and inspectors	29	3.5	30	1.3
Transportation and materials moving	26	6.8	29	2.6
Handler, equipment cleaners, helpers, and laborers	23	5.7	27	3.1

*Includes civilian, noninstitutionalized adults, 17 years of age or older, not enrolled in elementary or secondary school at the time of the interview. Excludes unemployed persons and persons not in the labor force, such as retirees, homemakers, etc. Also excludes those adults participating in full-time educational programs exclusively for the NHES:91. Information on full-time or part-time status was not collected in the NHES:95; therefore, the NHES:95 only excludes adults who were unemployed and not in the labor force.

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1991 and 1995.

Demographic characteristics and labor force status

The comparisons in this section include demographic characteristics, employment, and labor force status. For demographic and occupational comparisons, the March 1994 CPS was used. As shown in tables 4 through 8, most of the NHES:95 estimates are very similar to comparable estimates from the 1994 CPS.

Table 4 shows estimates of the adult population by gender and age. Most of the estimates from the NHES:95 and the 1994 CPS are within one-half of one percent. The biggest difference between the two data sets is the estimates for 25 to 34 year old males, by one percent.

Table 4.--NHES:95 and 1994 CPS estimates of the percent of the adult population, by gender and age

Age	Gender			
	NHES:95		CPS:94	
	Female	Male	Female	Male
	Estimate	Estimate	Estimate	Estimate
Total number of adults* (000's)	99,301	90,275	99,768	91,873
16 to 24 years	6.0	5.9	6.4	6.2
25 to 34 years	11.3	10.0	11.2	11.0
35 to 44 years	11.2	11.1	11.2	10.8
45 to 54 years	8.4	8.4	8.0	7.7
55 years and older	15.4	12.3	15.4	12.1

*Includes civilian, noninstitutionalized adults, age 16 or older, not enrolled in elementary or secondary school at the time of the interview.

NOTE: The percentages provided in this table are cell percentages and sum to 100 over females and males for each data set.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March, 1994.

As depicted in table 5, the NHES:95 and the 1994 CPS estimates of educational attainment by race/ethnicity are also quite close. Of the 16 comparisons in this table (i.e., those not including the "Total adults" row), 14 are within one percent or less for the NHES:95 and the 1994 CPS. Of the remaining two estimates, the NHES:95 shows a lower estimate on high school graduates (by 3.7 percent) and a higher estimate on college graduates (by 3 percent) among white, non-Hispanics.

Table 5.--NHES:95 and 1994 CPS estimates of the percent of the adult population, by educational attainment and race/ethnicity

Race/ethnicity	Number of adults (000's)	Educational attainment			
		Less than high school	High school	Associate's or some college	Bachelor's or higher
		Percent	Percent	Percent	Percent
NHES:95					
Total adults*	189,576	19.2	29.5	26.8	24.5
White, non-Hispanic	144,602	11.6	23.0	21.2	20.4
Black, non-Hispanic	20,808	3.1	3.5	2.7	1.7
Hispanic	15,705	3.6	2.1	1.7	.9
All other races	8,461	.9	.9	1.2	1.5
1994 CPS					
Total adults	191,640	18.7	34.1	26.5	20.7
White, non-Hispanic	145,633	11.3	26.7	20.9	17.4
Black, non-Hispanic	21,889	2.8	4.1	2.9	1.4
Hispanic	17,367	4.0	2.4	1.8	.7
All other races	6,752	.6	.9	.9	1.2

*Includes civilian, noninstitutionalized adults, 16 years of age or older, not enrolled in elementary or secondary school at the time of the interview.

NOTE: The percentages provided in this table are cell percentages and sum to 100 percent over race/ethnicity and educational attainment for each data set. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March, 1994.

In table 6, the estimates of labor force status from the NHES:95 and the 1994 CPS are presented. As shown, the two data sets are almost identical; again, all differences are less than one percent. Each data set shows about one-third of adults not in the labor force and about two-thirds in the labor force including about four percent unemployed.

Table 6.--NHES:95 and 1994 CPS estimates of the percent of the adult population, by labor force status

Labor force status	NHES:95	CPS:94
	Estimate	Estimate
Total number of adults* (000's)	189,576	191,640
Total	100.0	100.0
Employed in labor force	62.2	62.5
Unemployed in labor force	4.3	4.1
Not in labor force	33.5	33.4

*Includes civilian, noninstitutionalized adults, 16 years of age or older, not enrolled in elementary or secondary school at the time of the interview.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March, 1994.

Estimates of industry and occupation from the NHES:95 and the 1994 CPS appear in tables 7 and 8. Overall, both of the sets of estimates are very similar. For industry, educational services and health services are two noticeable discrepant categories between the two data sets. No observed discrepancies in estimates of occupation are identified.

Table 7.--NHES:95 and 1994 CPS estimates of the percent of the adult population, by industry

Industry	NHES:95		CPS:94	
	Estimate	s.e.	Estimate	s.e.
Total number of adults* (000's)	189,576	153,036	191,640	--
Total	100.0	--	100.0	--
Agriculture, forestry, and fishing	1.7	.11	1.9	.05
Mining	.3	.04	.4	.02
Construction	3.9	.19	4.2	.07
Manufacturing	10.5	.31	11.4	.11
Transportation, communication, utility, and sanitary services	4.5	.14	4.9	.08
Wholesale trade	1.2	.10	2.5	.06
Retail trade	10.7	.28	11.2	.11
Finance, insurance, and real estate	4.0	.16	4.4	.07
Services	13.3	.31	12.5	.12
Health services	5.9	.20	9.6	.11
Educational services	6.1	.20	2.0	.05
Public administration	4.1	.17	2.2	.05
Nonclassifiable establishments/not employed	33.9	.39	32.8	.17

*Includes civilian, noninstitutionalized adults, 16 years of age or older, not enrolled in elementary or secondary school at the time of the interview.

NOTE: s.e. is standard error. Estimated standard errors for the CPS estimates are provided since they were obtained by special request for the NHES:95 file adjudication process. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March, 1994.

Table 8.--NHES:95 and 1994 CPS estimates of the percent of the adult population, by occupation

Occupation	NHES:95		CPS:94	
	Estimate	s.e.	Estimate	s.e.
Total number of adults* (000's)	189,576	--	191,640	--
Total	100.0	--	100.0	--
Executive, administrative, and managerial occupations	6.9	.21	8.8	.10
Engineers, surveyors, and architects	.9	.08	1.1	.04
Natural scientists and mathematicians	.9	.06	1.0	.04
Social scientists, social and religious workers, and lawyers	1.3	.07	1.3	.04
Postsecondary teachers, counselors, librarians, archivists	.7	.06	.7	.03
Teachers (except postsecondary)	2.9	.13	2.5	.06
Health diagnostics and treating practitioners	.5	.05	.5	.03
Registered nurses, pharmacists, dieticians, therapists, and physician's assistants	1.2	.08	1.5	.04
Writers, artists, entertainers, and athletes	1.0	.08	1.1	.04
Health technologists and technicians	.9	.06	.9	.03
Technologists and technicians (except health)	1.9	.13	1.3	.04
Marketing and sales occupations	9.6	.24	8.0	.10
Administrative support, including clerical	12.1	.25	10.5	.11
Service occupations	10.6	.31	9.4	.11
Agricultural, forestry, and fishing occupations	1.2	.12	1.9	.05
Mechanics and repairers	2.5	.12	2.4	.06
Construction and extractive occupations	3.2	.21	2.9	.06
Precision production occupations	1.0	.11	2.2	.05
Production work occupations	5.0	.23	4.4	.07
Transportation and material moving occupations	2.8	.16	2.9	.06
Handlers, equipment cleaners, helpers, and laborers	1.3	.09	2.9	.06
Miscellaneous occupations/unemployed	31.6	.39	31.9	.17

*Includes civilian, noninstitutionalized adults, 16 years of age or older, not enrolled in elementary or secondary school at the time of the interview.

NOTE: s.e. is standard error. Estimated standard errors for the CPS estimates are provided since they were obtained by special request for the NHES:95 file adjudication process. Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), March, 1994.

Adult basic education/GED preparation and English as a Second Language programs

Table 9 presents estimates of participants in both adult basic education or GED preparation programs (ABE/GED), including adult secondary education, and English as a Second Language (ESL) courses from the Office of Vocational and Adult Education (OVAE) of the U.S. Department of Education and from the NHES:95. OVAE estimated that 2.3 million adults participated in ABE/GED programs and about 1.5 million adults participated in ESL programs, as compared to 2.2 million and 1.3 million estimated in the NHES:95, respectively. The discrepancies between the two sets of estimates for both ABE/GED and ESL may be explained in the following ways.

- The Office of Vocational and Adult Education (OVAE) data are state-level estimates of adults participating in federal grant-receiving programs of adult education. In the NHES:95, participation in ABE/GED or ESL was not limited to federal grant-receiving programs of adult education. Therefore, OVAE data represent very specific enrolled groups.
- There is also a possibility of overreporting in the OVAE data since one person could be enrolled in adult education programs at two different institutions over the course of a year and would thus be counted twice.
- In the NHES:95, if a respondent was unable to complete the interview because of a language problem (the NHES:95 was conducted in English and Spanish only), he/she was not included in the data. This eliminated respondents who may have been enrolled in ESL programs but were not able to understand English well enough to complete the interview.
- Finally, the OVAE data are projected to the next two years while the NHES:95 data are for a recall period of 12 months.

Table 9.--Estimates of the number of adults participating in ABE/GED and ESL programs

Basic skills education	NHES:95		OVAE	
	Number of participants	s.e.	Number of participants	s.e.
ABE/GED	2,240,270	149,725	2,306,714	N/A (program counts)
ESL	1,301,334	111,541	1,543,951	N/A (program counts)

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995; U.S. Department of Education, Office of Vocational and Adult Education, 1993 Adult Education Program Facts.

Credential programs

Table 10 shows estimates from the NHES;95, the NHES:91, and the 1992-1993 IPEDS data. The NHES:95 estimates of college/university and graduate school enrollment are similar to the estimates from the NHES:91 and the IPEDS figures. Given that the NHES encompasses more than one academic year, it might be expected that the NHES figures would be substantially larger than the IPEDS estimates; however, the NHES estimates shown here include only credential seekers, and not all persons taking any AE courses at higher education institutions.

Substantial differences are observed in the numbers of adults participating in "other" credential programs (i.e., not college/university or graduate programs). Although the numbers of participants in technical/vocational programs are not reported separately in the IPEDS data, we assume that they are included in estimates of participants in the less than 2-year institutions. In the IPEDS, 1.7 million adults were reported to be participating in credential programs in the less than 2-year institutions. The NHES estimates from both 1991 and 1995 are much higher than those of the IPEDS--2.3 million higher in the NHES:95 and 6.1 million higher in the NHES:91. In the NHES:95, a large number of respondents also reported participating in "other" credential programs (about 2.3 million adults); the IPEDS did not collect information on "other" credential programs.

These differences might result from differences in the time frames involved and types of programs reported in different collections as discussed below.

Time frame. As noted above, the NHES:95 AE component uses a time frame that is different from that for the IPEDS collection. The fact that the NHES:91 and the NHES:95 both have recall periods of 12 months, crossing over two academic years, suggests that part of the higher estimates in the NHES may be due to the differences in time frame.

Table 10.--NHES:95, NHES:91, and 1992-93 IPEDS estimates of the number of adults participating in credential programs

Type of degree program	Number of participants	
	Number	s.e.
NHES:95		
College/graduate	18,398,388	413,676
Vocational/technical	3,975,864	160,009
Other	2,292,802	137,946
NHES:91		
College/graduate	19,969,020	788,445
Vocational/technical	7,845,848	316,435
1992-1993 IPEDS		
4- and 2-year colleges*	19,016,966	N/A
Less than 2-year college	1,745,942	N/A

*Includes associate's, bachelor's, or advanced degree programs.

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995 and 1991; U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 1992-1993.

Programs Reported. While the IPEDS estimates include programs offered by accredited postsecondary institutions, the NHES has no such restriction. Some respondents report that they took credential programs from businesses, churches, and other non-academic institutions. Of the 4.0 million participants in vocational/technical programs in the NHES:95, about 1.4 million adults reported participating in vocational/technical programs provided by institutions other than vocational/technical schools. Some of the vocational schools providing programs that were reported in the NHES:95 may be unaccredited. Some of the programs reported are not traditional postsecondary vocational/technical diploma programs, but were reported by the respondents as programs leading toward a certificate of some kind. This is addressed further below.

Vocational versus Other Programs. Since relatively large numbers of respondents reported participating in "other" types of credential programs in the NHES:95, we reviewed these "other" programs in the course of data preparation. Some of them were recoded to specific categories, such as associate's or bachelor's degrees or vocational/technical programs. Some were also re-classified as work-related courses when the available information indicated that these were single courses. Finally, a total of 2.2 million adults reported that they participated in credential programs other than college degrees or vocational or technical programs. This is about 1 percent of the estimated 189 million adults in the study population.

In some cases, these programs are certificate programs that do not specifically fit into the above categories; for example, a series of courses leading to a certificate as a Novell network administrator. Others are programs leading to a specific certificate in a field such as real estate, health, and so on, but our review indicates that they cannot be unambiguously reclassified into other categories. In most cases, this results from the respondents reporting the field of the program rather than the type of credential.

The way in which the question was asked may have resulted in more non-college programs being classified as "other" in comparison to the NHES:91, in which more non-college programs were classified as vocational/technical. In the NHES:95, the question was open-ended and interviewers classified the response. The respondents' descriptions in some cases were not sufficiently well articulated to classify them, as mentioned above.

Vocational/Technical Programs. The NHES:95 estimate of the number of participants in vocational/technical programs is much higher than the estimate of participants enrolled in less than 2-year institutions from the IPEDS. According to the NHES:95, about 4 million adults took part in a vocational/technical program in the past year, while the IPEDS estimates about 1.7 million enrolled in credential programs in less than 2-year postsecondary institutions in the 1992-1993 academic year. (As noted earlier, since the information on enrollment in vocational/technical programs was not reported separately in the IPEDS, we assume that estimates of enrollment in vocational/technical programs were included in the less than 2-year institutions.) Again, many vocational/technical programs are provided outside of postsecondary institutions; in the NHES:95, of the 4.0 million participants in vocational/technical programs in the past year, about 1.4 million reported participating in vocational/technical programs provided by organizations or institutions other than vocational/technical institutes, community colleges, and 4-year colleges and universities.

Apprenticeship programs

Since no comparable data sources were available for apprenticeship participation, Nancy Stang at the U.S. Department of Labor, Bureau of Apprenticeship and Training (BAT) was contacted to obtain information on apprenticeship program participation. She provided an estimate for FY 1994 of 426,000 participants in *government regulated* apprenticeship programs. The NHES:95 estimated that 2.3 million adults participated in apprenticeship programs during the 12 month period prior to the survey.

Teresita Kopka at the National Institute for Post Secondary Education (NIPSE) of the U.S. Department of Education commented that a large part of the discrepancy between the Department of Labor and the NHES:95 estimates is due to the differences in defining apprenticeship programs. She uses the concepts of "flow" and "stock," as used in Economics to explain the discrepancies. The U.S. Department of Labor's estimate is "stock" in that it includes participants in an apprenticeship program at a specific point in time, while the NHES:95 estimate is "flow," including apprenticeship participants over a specific range in time (i.e., 12 months). She concludes that the two surveys use an incomparable measurement for apprenticeship participation.

Contact with adult education experts

This section summarizes comments received from adult education experts. Because of the differences between the NHES:95 method of collecting information on AE participation and all previous studies, we were unable to find directly comparable data for the types of participation. We contacted five adult education experts to obtain their reactions to the estimates from the NHES:95. A copy of the table pertaining to participation estimates by educational attainment from the early draft of the NHES:95 AE *Statistics in Brief*, titled *Forty Percent of Adults Participate in Adult Education Activities: 1994-95* (Kim et al. 1995), was mailed to the experts for their review. Unfortunately, we did not obtain an assessment of the data in many cases because the reviewers lacked sufficient data of their own for comparison. Their comments are as follows.

Alice Grindstaff at the George Meany Center for Labor Studies commented that the definition of apprenticeship programs that the Bureau of Apprenticeship and Training (BAT) uses for its data collection is defined by the National Apprenticeship Act of 1937 (the Fitzgerald Act) and that the BAT is mainly interested in "traditional" types of apprenticeship programs (e.g., Construction-Equipment Mechanic, Electronics Technician, etc.). She also pointed out that a lot of people might have taken part in some

other sorts of apprenticeship programs that are not strictly defined by the BAT. Since the NHES:95 did not specify an exact definition of apprenticeship programs and collected information regarding participation in apprenticeship programs from individual respondents, she indicated she would expect that the estimates of the NHES:95 would be higher than those of the BAT. She does not, however, have any statistics that can be used for comparison with the NHES:95 AE.

Elisabeth Hayes at the University of Wisconsin-Madison said that overall participation estimates of the NHES:95 AE seem reasonable, considering the fact that adult education activities have been widespread over the past few years. However, she pointed out that the combined estimates of ABE/GED and ESL (i.e., 3.8 million) are slightly lower than the estimates of the adult education program in 1993 (i.e., 3.9 million) reported in the 1993 Adult Education Program Facts by the U.S. Department of Education, Division of Adult Education and Literacy. She commented that the difference in estimates is due largely to different data sources, that is, participation information was collected from individual adults in the NHES:95 AE component, while information on adult education program enrollment was gathered through adult education programs funded by the federal government to produce the estimates for the Department of Education. Another comment was that, since the NHES:95 conducted interviews only in English and Spanish, the survey may undercount ESL enrollment by excluding those who do not speak either English or Spanish well enough to complete an interview.

Michael Horrigan at the Department of Labor, the Bureau of Labor Statistics (BLS) was asked to provide any comparable data to compare with the work-related participation estimates of the NHES:95 AE. He sent us a copy of the BLS survey focusing on employer-provided training. The unit of analysis used in their survey was business establishments as compared to individual adults in the NHES:95; appropriate comparisons were not possible.

Ron Pugsley at the U.S. Department of Education, Office of Vocational and Adult Education commented that the NHES:95 AE participation estimates seem reasonable as compared to the estimates from the U.S. Department of Education. He mentioned that the 1994 Adult Education Program Fact[7] showed that 1.3 million adults were enrolled in ESL; the NHES:95 showed that 1.2 million adults participated in ESL. Also, the 1994 Adult Education Program Facts reported that 2.7 million took part in ABE/GED; in the NHES:95, 2.2 million adults reported participating in ABE/GED. As mentioned

[7]Adult Education Program Facts, 1993-1994, a report by the Division of Adult Education and Literacy, U.S. Department of Education. This was unpublished at the time contact was made with Ron Pugsley.

above, the difference in estimates may be due largely to different data sources, that is, individual vs. program. The estimates of the 1994 Adult Education Program Facts were not available in publication when contact was made.

Sen Qi at GED Testing Service of the American Council on Education (ACE) told us that ACE does not have any statistics to compare with estimates of the NHES:95 AE. In their data collection, "participation" refers to taking a GED test instead of engaging in some type of GED preparation classes, which is the operational definition of the NHES:95 AE. In addition, the ACE collection includes a different population of adults (i.e., does not survey all adults or all adults without a high school diploma).

Adult Education Component Comparisons Summary

Estimates from the NHES:95 AE for participation rates in adult education are mostly higher than those of the previous data collections. The findings from the AE Splice interview showed that this discrepancy cannot be attributed to differences in the instruments; instead, this discrepancy may be largely due to changes in society where many adults have become involved in training, retraining, and other educational activities over the past few years.

For the comparisons of estimates for demographic characteristics, employment, and labor force status, the NHES:95 AE estimates are generally very similar to the 1994 CPS estimates.

Since there are few directly comparable data sources for comparing participation rates in adult education activities, a number of adult education experts were contacted to obtain their comments about the NHES:95 estimates. The experts commented that the NHES:95 estimates for participation in adult education were reasonable; nevertheless, they pointed out that they lacked sufficient data of their own for comparison.

The NHES:95 Early Childhood Program Participation Component Comparisons

Data comparisons in this section cover some of the major topical areas of the ECPP component for the NHES:95. Those topics include school enrollment, grade repetition, participation in child care arrangements and programs, engaging in literacy-related activities with family members, the prevalence of disabilities, and parent and household characteristics. Because of the breadth of topics included in the ECPP component, several data sources were used for comparison. Below is a brief description of each, followed by a discussion of methods used for testing the statistical significance of differences in estimates presented in this report.

The Current Population Survey (CPS), October Education Supplement

The CPS is conducted monthly to provide estimates of employment, unemployment, and other characteristics of the labor force. The U.S. Department of Education is a sponsor of the annual October supplement to the CPS, which provides specific information on educational topics.

CPS data from October 1992 and 1993 are used for comparison with estimates from the NHES:95 ECPP component. The October 1992 supplement contains the most recent available CPS data regarding child care arrangements. These data were used to compare estimates regarding preschool children's participation in child care arrangements and programs. Estimates of school enrollment and grade level from the 1993 CPS are also compared to those from the ECPP component. The October 1993 supplement contains the most recent available CPS data on school enrollment.

The 1991 and 1993 National Household Education Surveys (NHES:91, NHES:93)

Data collected in the NHES:91 and the NHES:93 both provide information on early childhood education. The NHES:91 and NHES:93 data are used in comparisons of NHES:95 ECPP estimates concerning grade repetition, participation in child care arrangements and programs among preschoolers, participation in literacy-related activities with family members, disabling conditions, and parent and household characteristics. The NHES:91 and NHES:93 contained samples of children aged 3 to 7 years old or in second grade or below. The NHES:91 sample contains 12,472 children; the NHES:93 sample contains 10,888 children. In contrast, the NHES:95 sample included 14,064 children age 10 and younger who were enrolled in third grade or below.

The 1990 National Child Care Survey (NCCS)

The NCCS collected information from approximately 4,400 parents or guardians of children under age 13. Thus, the NCCS includes children of the age range used in the NHES:95 (as well as some older children). The NCCS study asked respondents to report arrangements that occurred "at least once a week for the last two weeks." Therefore, in making comparisons with the NCCS data, the NHES:95 data are restricted to arrangements reported to occur at least once a week. Comparisons between the NHES:95 ECPP component and the NCCS have to do with estimates of participation in child care arrangements and programs among children age 0 to 2, the types arrangements or programs in which children participate for the most hours per week, the total number of hours per week spent in arrangements, and the number of children and staff present at arrangements. The NCCS data presented in this report came from *National Child Care Survey, 1990.*[8]

The Child Care Module of the 1991 Survey of Income and Program Participation (SIPP)

Data from the 1991 SIPP are also used for comparisons with the NHES:95 ECPP component. The SIPP study collected information about the child care arrangements of children under age 15 during the time their mothers are working at their jobs or attending school. However, the published SIPP estimates apply to employed mothers. The SIPP data are therefore different from the NHES:95 ECPP data which includes child care arrangements for children regardless of their mothers' employment or school enrollment statuses. Despite these differences, the age range of children covered in the SIPP is comparable to that of the NHES:95. Approximately 5,200 children are included in the 1991 SIPP. The SIPP data were used primarily to compare with NHES:95 estimates of the types of child care arrangements covering the most time mothers are at work. The SIPP data presented in this report came from *Who's Minding the Kids? Child Care Arrangements: Fall 1991.*[9]

Methods of Significance Testing

Significance testing with published data was done when unweighted sample sizes were available. Consequently, significance testing was not done for ECPP data comparisons with any of the 1991 SIPP data because unweighted sample sizes were not available. Significance testing was also not possible for

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[8]Hofferth, et al, op. cit.

[9]Casper, et al, op. cit.

differences in estimates of *means* generated from the NCCS data, since information as to the variance of these estimates was not available.

The following formulas were used to test the significance of differences in *percentages* between the NHES:95 ECPP data and data from other sources, primarily the 1990 NCCS:

$$SIGMA = SQRT((DEFF1*(P1*(100-P1)/N1)) + (DEFF2*(P2*(100-P2)/N2)))$$
$$Z = (P1-P2)/SIGMA$$

Where

P1 = Survey 1 estimated percentage
P2 = Survey 2 estimated percentage
DEFF1 = Survey 1 design effect
DEFF2 = Survey 2 design effect
N1 = Survey 1 unweighted sample size
N2 = Survey 2 unweighted sample size

An average DEFF of 1.2 was used for the NHES:95 ECPP component. The 1990 NCCS documentation provides average DEFF's for various sample sizes, thus the DEFF used depended on the sample size involved; it ranged from 1.02 to 1.21.

The critical value of z had to be 2.5 or greater for the difference to be considered significant. This level was chosen to account for multiple comparisons.

Early Childhood Program Participation Component Findings

The data comparisons below for the ECPP component of the NHES:95 cover most of the major topics included in the questionnaire. The estimates compared below cover the topics of school enrollment and grade level, grade repetition, participation in child care arrangements and programs, literacy-related activities, disability, and parent and household characteristics.

School enrollment and grade level by age

Table 11 shows NHES:95 and 1993 CPS estimates of enrollment and current grade level among 3- to 10-year-olds. Since the CPS estimates were gathered in the month of October, the age of children in the NHES:95 has been recalculated to reflect their age as of September 31, 1994, rather than the

Table 11.--NHES:95 and 1993 CPS estimates of the percent of 3- to 10-year-olds not enrolled in school and the percent in current grade, by child's age

Child's age	Number of children (000's)	Not enrolled	Child's current grade				
			Nursery school	K	1	2	3
NHES:95*							
3	4,203	58	41	1	<0.5	--	--
4	4,013	33	59	8	<0.5	<0.5	--
5	4,014	3	6	84	7	--	--
6	3,847	<0.5	<0.5	11	82	7	<0.5
7	3,703	--	--	--	16	79	6
8	3,620	--	--	--	<0.5	16	83
9	760	--	--	--	<0.5	3	97
10	30	--	--	--	--	--	100
1993 CPS							
3	4,053	73	26	1	--	--	--
4	4,044	46	41	12	--	--	--
5	3,857	8	7	79	6	<0.5	--
6	3,794	1	<0.5	15	78	5	<0.5
7	3,799	--	--	1	18	75	6
8	3,477	--	<0.5	<0.5	1	23	76
9	960	--	<0.5	<0.5	<0.5	5	94
10	90	--	4	--	4	6	85

* Calculated age as of September 31, 1994.

-- = Represents zero. Note that this estimate is based on a sample; it is possible that children with these characteristics exist in the population.

NOTE: Percentages may not sum to 100 due to rounding. Estimates that are greater than zero but do not round to 1.0 are shown as <0.5 (less than one-half). For the NHES:95, the current grade of kindergarten (K) includes grades classified as kindergarten, transitional kindergarten, and prefirst grade.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Education Supplement, 1993.

NHES standard of December 31, 1994. The NHES:95 estimates are quite similar to those from the 1993 CPS, with the exception of estimates of nursery school enrollment. Specifically, the NHES:95 estimates that 41 percent of 3-year-olds and 59 percent of 4-year-olds are attending nursery school, compared to 26 percent of 3-year-olds and 41 percent of 4-year-olds in the 1993 CPS.

This discrepancy is most likely due to differences in question wording between the two surveys. The wording of the NHES:95 ECPP questionnaire items encourage respondents to report participation in nursery schools as "school" attendance. Specifically, the NHES:95 question determining whether or not children are attending school includes the phrase "nursery school" in its question, while the 1993 CPS simply asked if the child was attending "school." There were CPS interviewer instructions indicating that interviewers ask about nursery school or kindergarten attendance for younger children; however, it is likely that these instructions were not followed consistently. In addition, the NHES:95 includes nursery schools, preschools, Head Start, and prekindergartens in its specification of the nursery school grade level; in contrast, the CPS only specifies "nursery school" in its questionnaire. Even though respondents do not see these specifications, they are available to interviewers and thus could affect the responses recorded.

It is worth noting that the school enrollment question on the CPS October supplement changed in 1994 to include wording specifically asking about "nursery schools" for preschool-aged children, similar to the NHES:95. These data are not yet available; however, according to some preliminary 1994 CPS estimates provided by the Education Statistics Branch of the U.S. Census Bureau, the estimate of nursery school enrollment among 3- and 4-year olds was 44 percent in October 1994. The NHES:95 estimate of nursery school enrollment for 3- and 4-year-olds combined is 50 percent. Thus, the new wording of the CPS school enrollment question for preschoolers does appear to yield a more similar estimate.

Enrollment in public and private schools

Estimates of enrollment in public and private schools from the NHES:95 and the 1993 CPS are presented in table 12. The estimates from the two sources are extremely similar for each grade level from kindergarten through third grade. Differences in the estimates range from only 1 to 3 percent. The similarity in estimates is not surprising, given that the question wording from both surveys is very similar and that the determination of public versus private control for elementary schools (i.e., grades kindergarten through 3rd) is generally a straightforward concept for respondents.

Table 12.--NHES:95 and 1993 CPS estimates of the percent of children in grades K through 3 in public and private schools, by child's grade level

Child's current grade	Number of children (000's)	School	
		Public	Private
NHES:95			
K	4,064	84	16
1	3,935	89	11
2	3,716	91	9
3	3,947	87	13
1993 CPS			
K	4,178	84	16
1	3,950	90	10
2	3,890	89	11
3	3,869	90	10

NOTE: For the NHES:95, the current grade of kindergarten (K) includes grades classified as kindergarten, transitional kindergarten, and prefirst grade.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Education Supplement, 1993.

Grade repetition

Estimates of repeating grades kindergarten through third grade from the NHES:95, NHES:93, and NHES:91 are presented in table 13. NHES:95 estimates of grade repetition among kindergartners are similar to those from previous NHES survey years. However, most of the NHES:95 estimates of grade repetition by first and second graders appear slightly lower than those from the NHES:93 and NHES:91. Specifically, 7.1 percent of first graders were reported to have ever repeated a grade in the NHES:95 compared to 10.0 percent and 11.3 percent in the NHES:93 and NHES:91, respectively. Estimates of repeating the specific grades of kindergarten and first are also relatively low among first graders in the NHES:95. As for second graders, the NHES:95 estimate of ever repeating a grade (9.2 percent) is similar to that observed in the NHES:93 (9.4 percent) but lower than that seen in the NHES:91 (14.0 percent). Estimates of repetition of specific grades among second graders show a similar pattern, particularly for repetition of the first and second grade.

Table 13.--NHES:95, NHES:93, and NHES:91 estimates of the percent of children in grades K through 3 who have repeated a grade in school, by child's current grade level

Current grade	Number of children (000's)	Ever repeated		Grade repeated							
				K		1		2		3	
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
NHES:95											
K	4,064	6.7	0.7	6.7	0.7	--	--	--	--	--	--
1	3,935	7.1	0.8	4.1	0.6	3.1	0.5	--	--	--	--
2	3,716	9.2	0.8	5.3	0.7	3.1	0.5	1.4	0.3	--	--
3	3,947	12.4	0.9	6.5	0.7	4.0	0.5	1.3	0.3	1.0	0.3
NHES:93											
K	3,966	6.3	0.7	6.3	0.7	--	--	--	--	--	--
1	3,965	10.0	0.7	6.1	0.6	4.5	0.6	--	--	--	--
2	3,421	9.4	0.6	5.4	0.5	3.4	0.4	1.0	0.3	--	--
NHES:91											
K	4,009	6.8	0.7	6.8	0.7	--	--	--	--	--	--
1	4,001	11.3	0.7	6.5	0.6	5.3	0.6	--	--	--	--
2	3,724	14.0	1.0	5.9	0.6	5.7	0.6	2.9	0.5	--	--

-- = Represents zero. Note that this estimate is based on a sample; it is possible that children with these characteristics exist in the population.

NOTE: s.e. is standard error. The grade of kindergarten (K) includes grades classified as kindergarten, transitional kindergarten, and prefirst grade.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995, 1993, and 1991.

It is not apparent why these differences in estimates exist. Differences in question wording across survey years is a potential source of these differences but seems unlikely given the very slight differences in wording. One possibility is the fact that, compared to the previous NHES studies, the NHES:95 includes more children who live in relatively high-income households and who have mothers with relatively high educational attainment (this is discussed later in this report) who may in turn be less likely to repeat grades in school.

Participation in care arrangements and programs

Before discussing the comparisons of estimates regarding participation in care arrangements and programs, it is worthwhile to note how the NHES:95 defines care arrangements. The NHES:95 ECPP component defined care arrangements as care received on a regular basis from providers other than children's parents (or guardians if no parent lived in the household). The term "regular basis" was not defined for respondents; however, some questionnaire items did determine the frequency of arrangements as occurring at least once each week, once each month, or less often. The types of arrangements included were relatives other than children's parents, nonrelatives in private homes, Head Start programs, and other center-based programs such as day care centers, nursery schools, preschools, prekindergartens, and before/after school programs.

The definitions used for care arrangements in comparative data sets used below (i.e., the NCCS and the SIPP) differ from the ones used for the NHES:95. For instance, the NCCS includes fathers as child care arrangements that replace maternal care. Also, the SIPP only considers care arrangements that take place during the time mothers are at work or at school. These and other differences between the operational definitions used in the NHES:95 and in the comparative data sources are noted below in the discussions of each table.

Infants and toddlers

The NHES:95 was the first NHES survey to include infants and toddlers (i.e., children age 2 and younger) in its eligible sample. Therefore, it is worthwhile to examine how estimates of participation within this specific population compare to those from other data sources. Table 14 illustrates how the NHES:95 estimates compare to those from the 1990 NCCS. Since the NCCS published estimates pertain to "primary arrangements," that is, those in which children were reported to participate for the most hours per week, the NHES:95 estimates presented also pertain to such arrangements.

For the NCCS, care arrangements labeled "In-home provider" and "Family day care" are most comparable to those labeled "Nonrelative care-child's home" and "Nonrelative care-other home" for the NHES:95. In general, the NHES:95 estimates are very similar to those from the NCCS. Examples are the estimates of participation in center-based programs and parental care as primary arrangements which are very close.

Table 14.--NHES:95 and 1990 NCCS estimates of the percent of 0- to 2-year-old children by primary child care arrangement or program, by child's age group

Type of care arrangement*	Child's age	
	Less than 1 year old	1 or 2 years old
NHES:95		
Number of children (000's)	4,158	8,034
Relative-child's home	10 %	8 %
Relative-other home	12	11
Nonrelative—child's home	3	4
Nonrelative-other home	13	15
Center-based program	6	14
Equal hours in 2 or more types of care	1	1
No nonparental care	55	49
1990 NCCS		
Number of children (000's)	3,927	7,175
Relative-child's home	7 %	7 %
Relative-other home	8	11
In-home provider	4	4
Family day care	10	12
Center	7	15
Other	5	4
Parent (no nonparental care)	59	49

*Primary care arrangements and programs are those in which children were reported to participate for the most hours per week.

NOTE: Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. *National Child Care Survey, 1990.* Urban Institute Report 91-5.

The NHES:95 estimates for participation in relative care (both in the child's home and in another home) and in nonrelative care in another home are slightly higher than those from the NCCS, more so for children less than one year old. However, the differences are far from striking; they range from only 1 to 4 percent. The small differences observed may be due in part to the way in which the two studies identify arrangements that take place for the most hours per week. In the NCCS, the respondents themselves identify children's primary arrangements; however, in the NHES:95, the arrangements taking

the most hours were identified by reviewing the hours reported for each of children's arrangements and classifying the ones with the most hours.

Participation by race/ethnicity

Table 15 contains estimates of participation in child care arrangements and programs for preschool-aged children (age 0 to 5) by race/ethnicity from the NHES:95 and the 1992 CPS. For each race/ethnicity, estimates of overall participation in any type of child care arrangement are somewhat higher in the NHES:95 than in the 1992 CPS. In the first column in table 15, estimates of *non*participation for each race/ethnicity in the NHES:95 are 9 to 17 percentage points lower than estimates generated from the 1992 CPS. The estimates of participation levels in the specific types of arrangements reveals that this differential is largely due to higher NHES:95 estimates of participation in relative and nonrelative arrangements across all race/ethnicity groups.

The higher NHES:95 estimates of participation in relative and nonrelative care are likely the result of differences in the NHES:95 and CPS questionnaire items used to gather these data. Questionnaire items in the NHES:95 provided respondents with extensive examples of relative and nonrelative care arrangements. The questionnaire item pertaining to relative care said "This may include grandparents, brothers and sisters, or any relatives other than [CHILD]'s parents or guardians"; the item pertaining to nonrelative care said "This includes care by home child care providers, regular sitters, or neighbors." In contrast, the 1992 CPS questionnaire item provides no examples for respondents. Rather, the CPS item asked "Which of the following types of care or education does (CHILD) currently receive on a regular basis...Relative...Nonrelative..." It is not surprising that higher estimates would result from items containing several examples intended to cue respondents. Nevertheless, it is worth noting that while the levels of participation differ between the NHES:95 and 1992 CPS, the patterns of participation in relative and nonrelative care arrangements across race/ethnicity are similar (e.g, blacks have the highest level of participation in relative care; whites have the highest level of participation in nonrelative care).

Another factor which may have contributed toward higher estimates of relative and nonrelative care in the NHES:95 is that questions intended to identify the primary and secondary care arrangements of children while their mothers are at work or school inadvertently yielded additional reports of home-based arrangements. At these items, several respondents reported regular relative and nonrelative care arrangements that were not recorded earlier in the questionnaire; these arrangements were subsequently

Table 15.--NHES:95 and 1992 CPS estimates of the percent of 0- to 5-year-olds not yet in kindergarten who are participating in no nonparental care, relative care, nonrelative care, and center-based care, by race/ethnicity

Child's race/ethnicity	Number of children (000's)	Participation in arrangements				
		No nonparental care	Relative care	Nonrelative care	Center-based care	Some other place
NHES:95						
Hispanic	2,459	61	24	12	6	--
White, non-Hispanic	10,740	50	19	23	13	--
Black, non-Hispanic	2,563	43	34	13	14	--
Other, non-Hispanic	1,017	51	27	14	12	--
1992 CPS						
Hispanic	2,007	73	13	6	8	1
White, non-Hispanic	10,550	59	12	14	16	2
Black, non-Hispanic	2,550	57	21	7	15	1
Other, non-Hispanic	667	68	19	6	8	<0.5

-- = Not applicable.

NOTE: Row percentages do not sum to 100 since children may participate in more than one child care arrangement or program. Estimates that are greater than zero but do not round to 1.0 are shown as <0.5 (less than one-half). For the CPS analysis, 662 cases were excluded because no responses were recorded at the care arrangement item. For the NHES:95, center-based care includes Head Start programs as well as other day care centers, nursery schools, preschools, and prekindergartens.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October Education Supplement, 1992.

added to the data base. Thus, the primary and secondary care arrangement items unintentionally provided an additional opportunity in the NHES:95 questionnaire to report a regular arrangement, most of which were relatives and nonrelatives in home-based settings. In all, 191 (unweighted) relative arrangements, 65 (unweighted) nonrelative arrangements, and 8 (unweighted) center-based arrangements were added.

Estimates of participation in Head Start and other centers are similar between the two data sources; differences range from only 1 to 4 percentage points. This similarity is probably also rooted in the design of the NHES and CPS items: both provide similar examples of center-based programs. In the NHES:95, the Head Start participation item is a separate question preceding that determining participation in other centers. The item for other center-based programs asks respondents to include

participation in day care centers, nursery schools, preschools, and prekindergartens. The 1992 CPS question categorizes Head Start and other centers together; however, similar examples are provided: "Daycare Center/Nursery/Pre-K/Headstart."

Participation and some other socioeconomic factors

Table 16 presents NHES:95 and NHES:91 estimates of participation in child care arrangements for 3- to 5-year-old preschoolers according to household income, parents' highest education, and mothers' employment status. Note that because children in the NHES:95 could have been reported to have multiple relative or multiple nonrelative arrangements at different locations, the NHES:95 data presented in table 16 pertain to the first relative or nonrelative care arrangement reported.

Data from both the NHES:95 and the NHES:91 indicate that the percent not participating in any type of nonparental care is highest among preschoolers who live in relatively low-income households, whose parents have relatively low levels of educational attainment, and whose mothers are not working at paid jobs. Not only are the patterns of association the same, but the levels of non-participation across categories of each socioeconomic variable are generally comparable between the NHES:95 and NHES:91. However, among children with working mothers, the percentage with no nonparental care significantly decreased between 1991 and 1995. For those with mothers working full-time, the percentage decreased from 13 to 8 percent and for those with mothers working part-time, the percentage decreased from 23 to 15 percent. These differences may be due at least in part to the NHES:95 primary and secondary care arrangement questions just discussed in the section above. These items asked respondents to identify the care arrangements used while mothers are at work or school, and provided an additional opportunity to report arrangements that had not been reported earlier in interviews.

Estimates of 3- to 5-year-old preschoolers' participation in relative care from the two surveys reveal no significant differences between 1991 and 1995. In both years, the percentages of preschoolers across income and parent education subgroups who were receiving care from relatives in their own homes or other homes was similar; differences ranged from 0 to 5 percent. Data from both surveys are also comparable regarding mothers' employment statuses: both indicate that a larger percentage of children with working mothers than with nonworking mothers were receiving relative care. The differences in relative care estimates by mother's employment status are not significant and range from 0 to 4 percent.

Table 16.--NHES:95 and NHES:91 estimates of the percent of 3- to 5-year-olds not yet in kindergarten who are participating in no nonparental care, relative care, nonrelative care, and center-based care by household income, parents' highest education, and mother's employment status

Characteristic	Number of children (000's)	No nonparental care		Relative care				Nonrelative care				Center-based care	
				In own home		In other home		In own home		In other home			
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
NHES:95													
Household income													
$10,000 or less	1,795	34	3.1	8	1.5	10	1.9	2	0.7	8	1.6	49	3.2
$10,001 to $20,000	1,204	33	2.4	11	1.7	14	1.8	3	1.2	12	1.8	45	2.8
$20,001 to $30,000	1,484	34	1.8	7	1.0	14	1.5	2	0.5	12	1.9	45	2.1
$30,001 to $40,000	1,319	30	3.0	6	0.9	14	2.1	3	1.0	18	1.9	46	2.8
$40,001 to $50,000	1,034	23	2.8	7	1.6	11	1.6	4	1.1	16	2.1	56	3.0
$50,001 to $75,000	1,381	12	1.4	6	1.2	12	1.4	4	1.1	15	1.6	71	2.2
More than $75,000	1,012	8	2.8	8	1.5	6	1.3	14	1.8	11	2.0	82	2.7
Parent's highest education													
Less than high school	764	48	3.3	10	2.1	6	1.4	2	1.1	8	2.3	36	3.8
High school/high school equivalency	2,877	32	1.7	8	0.9	16	1.4	2	0.7	12	1.2	45	1.7
Vocational/technical or some college	2,673	25	1.8	8	0.8	13	1.3	3	0.7	14	1.3	54	2.0
College graduate	1,585	18	1.9	6	1.1	11	1.5	6	1.4	13	1.1	67	2.3
Graduate or professional school	1,331	13	2.5	6	1.2	6	1.0	10	1.6	15	1.8	75	2.8
Mother's employment status													
Working 35 hours per week or more	3,250	8	1.0	11	0.9	21	1.4	6	0.9	22	1.6	60	1.6
Working less than 35 hours per week	1,881	15	1.5	10	1.3	15	1.5	5	1.0	18	1.8	62	2.1
Looking for work	577	43	3.9	4	1.5	4	1.6	0	0.0	2	0.9	52	3.9
Not in labor force	3,348	47	2.0	3	0.6	3	0.5	3	0.6	3	0.5	47	1.6

Table 16.--NHES:95 and NHES:91 estimates of the percent of 3- to 5-year-olds not yet in kindergarten who are participating in no nonparental care, relative care, nonrelative care, and center-based care by household income, parents' highest education, and mother's employment status--Continued

Characteristic	Number of children (000's)	No nonparental care		Relative care				Nonrelative care				Center-based care	
				In own home		In other home		In own home		In other home			
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
NHES:91													
Household income													
$10,000 or less	1,495	42	2.7	7	1.3	10	1.2	1	0.5	5	0.9	45	2.5
$10,001 to $20,000	1,439	36	2.0	7	0.9	12	1.1	2	0.6	10	1.3	44	1.9
$20,001 to $30,000	1,717	39	1.6	6	0.7	13	1.0	3	0.6	10	1.0	45	1.6
$30,001 to $40,000	1,325	30	2.0	7	1.0	9	0.9	4	0.8	12	1.1	53	1.8
$40,001 to $50,000	936	23	1.8	9	1.3	8	1.1	4	1.1	17	1.8	60	2.3
$50,001 to $75,000	975	15	1.5	5	0.9	11	1.4	3	0.8	19	1.6	68	2.3
More than $75,000	556	9	1.6	5	1.1	5	1.2	14	2.0	12	1.7	80	2.4
Parent's highest education													
Less than high school	789	52	3.7	7	1.3	10	1.6	2	0.8	6	1.4	30	2.7
High school/high school equivalency	2,744	38	1.4	7	0.7	12	0.7	2	0.4	10	0.8	43	1.4
Vocational/technical or some college	2,554	28	1.4	7	0.6	11	0.8	3	0.6	12	0.8	56	1.4
College graduate	1,281	22	1.7	6	1.1	8	1.0	4	0.9	13	1.4	65	1.8
Graduate or professional school	1,020	16	1.8	4	0.8	6	1.1	8	1.1	16	1.9	73	2.0
Mother's employment status													
Working 35 hours per week or more	2,795	13	0.9	9	0.8	18	1.0	4	0.5	21	1.1	60	1.3
Working less than 35 hours per week	1,908	23	1.6	10	1.1	11	1.1	5	0.9	15	1.4	58	1.6
Looking for work	518	51	3.6	5	1.2	5	1.3	0	0.2	1	0.5	43	3.4
Not in labor force	3,014	50	1.2	3	0.4	3	0.5	2	0.3	2	0.4	45	1.2

NOTE: s.e. is standard error. The NHES:95 data pertain to the first relative or nonrelative care arrangement reported. Row percents do not sum to 100 because children could participate in more than one type of arrangement.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995 and 1991.

Receipt of nonrelative care in children's own homes appears to be very rare in both the NHES:95 and NHES:91, except among 3- to 5-year-old preschoolers living in households with the highest incomes and with parents who are very highly educated. As for estimates of receiving care by nonrelatives in other homes, most of the differences in the percentages are nonsignificant and are under 5 percent. However, there is one significant difference among children in households with incomes between $30,000 and $40,000: the percent receiving nonrelative care in other homes increased from 12 percent in 1991 to 18 percent in 1995. Overall, both studies indicate that children from relatively low income households and with less educated parents are less likely to be receiving nonrelative care in other homes. However, in both the NHES:95 and NHES:91 children in households with the highest incomes are less likely to receive such care (as noted above, they tend to have in-home care). Finally, both studies suggest that nonrelative care outside of children's own homes is also much more likely among children with mothers working in the labor force than among those with nonworking mothers.

According to both the NHES:95 and the NHES:91, center-based programs are the most common type of care arrangement in which 3- to 5-year-old preschoolers participate. Trends in participation observed in the NHES:95 and the NHES:91 data across income, parent education, and maternal employment groups are also similar. Specifically, the percent of children participating in center-based programs remains steady at approximately 45 to 50 percent in the lower to middle income groups, and then increases for each higher income group to about 80 percent among those in households earning more than $75,000 per year. In both the NHES:95 and the NHES:91, with each increase in parent education category, center-based program participation increases by approximately 10 percentage points; participation ranges from about one-third of preschoolers whose parents' highest education level is less than high school to about three-fourths of children whose parents have had at least some graduate or professional school education. Finally, both the NHES:95 and the NHES:91 indicate that approximately 60 percent of children whose mothers are working in the labor force are participating in center-based programs, while about 45 to 50 percent of those whose mothers are not in the labor force or looking for work participate.

Given differences in the design of the questionnaires gathering these data, it may be somewhat surprising that there are so many similarities between the NHES:95 and the NHES:91 estimates of participation in care arrangements and programs and its association with some family characteristics. However, while the structure of the NHES:95 was more complex than the NHES:91 as far as collecting information on multiple relative and nonrelative care arrangements, both studies used very similar questions for determining children's participation status in relative and nonrelative care arrangements.

The more significant design differences appeared in items gathering information about children's participation in center-based programs. Specifically, the NHES:95 asked one question to determine participation in Head Start programs and one to determine participation in all other types of center-based programs. In contrast, the NHES:91 utilized one item to determine participation in day care centers, and another item to determine participation in nursery schools, prekindergartens, or Head Start programs. However, it appears that when the data are aggregated, overall estimates of participation in centers are similar between the two studies.

Primary care arrangements used for children with employed mothers

Data sources providing information on child care arrangements often identify children's "primary" arrangements, which are defined differently in different studies. Tables 17 and 18 compare estimates of children's primary arrangements as defined in the 1991 SIPP and in the 1990 NCCS to comparable estimates from the NHES:95. The 1991 SIPP defines a child's primary arrangement as that which takes place for the most hours in a typical week *while the child's mother is at work or at school*. To differentiate the SIPP definition of primary arrangements from the NCCS definition,[10] the following discussion will refer to primary arrangements in the SIPP data as children's "main" arrangements. Table 17 presents published 1991 SIPP estimates of the main arrangements for children with employed mothers by children's ages, along with the comparable NHES:95 estimates. As mentioned earlier, the statistical significance of differences in estimates between these two studies could not be evaluated, since the unweighted sample sizes for the SIPP data were unavailable. In contrast, unweighted sample sizes were available from the published NCCS data, and the procedures described in the earlier section Methods of Significance Testing were used to test the statistical significance of differences from the NHES:95.

Table 17 shows that very similar estimates of children's main arrangements were gathered from the NHES:95 and the 1991 SIPP. Among children less than 5 years old, the most prevalent types of main care arrangements are center-based programs, fathers, and nonrelative care outside children's own homes. The percentages of children less than 5 years old who participate in each of these types of care is each about 20 percent. For both studies, the fourth and fifth most common types of main care arrangements for these young children are care by relatives in other homes (14 percent in the NHES:95;

[10]As indicated earlier, the NCCS defines "primary" arrangements as those taking place for the most amount of time. It does not take into consideration how the time spent in the arrangement corresponds to the time the mother spends at work.

Table 17.--NHES:95 and 1991 SIPP estimates of the percent of 0- to 10-year-old children with employed mothers participating in main care arrangements or programs, by child's age group

Type of care arrangement[1]	Child's age		
	Less than 5 years old	5 years old	6 to 10 years old[2]
NHES:95			
Number of children (000's)	10,620	2,160	7,718
Relative-child's home	9 %	4 %	2 %
Relative-other home	14	7	2
Nonrelative-child's home	4	2	1
Nonrelative-other home	20	8	2
Center-based program	22	17	4
Kindergarten/grade school	<0.5	38	73
Mother cares at work	6	5	3
Other parent	22	19	12
Child cares for self	--	--	<0.5
Other	2	1	<0.5
1991 SIPP			
Number of children (000's)	9,854	2,072	12,841
Relative-child's home	10 %	4 %	3 %
Relative-other home	13	6	2
Nonrelative-child's home	5	3	1
Nonrelative-other home	18	5	1
Organized child care facility	24	19	4
Kindergarten/grade school	1	43	79
Mother cares at work	9	6	2
Father	20	13	7
Child cares for self	--	--	1

[1] Main care arrangements and programs are those that cover the most hours mothers are at work in a typical week.
[2] For the 1991 SIPP analysis, the upper age limit for this category is 11 years old.

-- = Represents zero. Note that this estimate is based on a sample; it is possible that children with these characteristics exist in the population.

NOTE: For the NHES:95, estimates that are greater than zero but do not round to 1.0 are shown as <0.5 (less than one-half). Figures may not add to totals due to rounding. Also for the NHES:95, center-based programs refer to Head Start programs, as well as other day care centers, nursery schools, preschools, prekindergartens, and before/after school programs.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. *Who's Minding the Kids? Child Care Arrangements: Fall 1991*, U.S. Bureau of the Census, Current Population Reports, P70-36.

Table 18.--NHES:95 and 1990 NCCS estimates of the percent of 0- to 10-year-olds with employed mothers participating in primary care arrangements or programs, by child's age group

Type of care arrangement[1]	Child's age				
	Less than 1 year old	1 or 2 years old	3 or 4 years old	5 years old	6 to 10 years old[2]
NHES:95					
Number of children (000's)	1,979	4,025	4,616	2,160	7,718
Relative-child's home	14 %	10 %	8 %	10 %	12 %
Relative-other home	19	17	13	13	10
Nonrelative-child's home	6	5	3	3	4
Nonrelative-other home	25	26	17	13	9
Center-based program	9	19	45	32	16
Equal hours in 2 or more types of care	1	2	2	2	1
No nonparental care	27	21	12	28	47
1990 NCCS					
Number of children (000's)	1,592	3,692	4,035	2,040	9,000
Relative-child's home	8 %	8 %	5 %	8 %	9 %
Relative-other home	11	13	10	11	8
In-home provider	5	4	3	4	4
Family day care	20	20	17	12	8
Center	14	21	37	29	13
Other	5	3	4	6	19
Parent (no nonparental care)	37	32	25	31	39

[1] Primary care arrangements and programs are those in which children were reported to participate for the most hours per week.
[2] For the 1990 NCCS analysis, the upper age limit for this category is 9 years old.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. *National Child Care Survey, 1990.* Urban Institute Report 91-5 .

13 percent in the SIPP) and in the children's own homes (9 percent in the NHES:95; 10 percent in the SIPP).

The 1991 SIPP and NHES:95 both estimate kindergarten/grade school as the most common main arrangement for 5-year-olds while their mothers are at work; the SIPP estimated 43 percent and the NHES:95 estimated a slightly lower 38 percent. The next most prevalent types of main care arrangements are center-based programs and fathers, with estimates ranging from 13 to 19 percent in the

NHES:95 and SIPP. Estimates of participation for all other main arrangement types are under 10 percent for both studies.

As for children older than 5, both the NHES:95 and the SIPP estimate that about three-fourths of these children are in school for most of the time their mothers are working at jobs. Fathers were the main caretakers during mothers' hours of employment for 12 percent of 6- to 10-year-olds according to the NHES:95; the comparable estimate from the SIPP was 7 percent. Both studies indicate that other types of main arrangements are even less common among school-aged children.

Given that the NHES:95 questionnaire item identifying the main care arrangements while mothers were at work was adopted directly from the SIPP questionnaire, it should not be surprising that the estimates from the two studies are so similar. In fact, during data collection the SIPP item which appeared late in the NHES:95 questionnaire actually uncovered arrangements that were not reported at the preceding items determining participation status in arrangements.

The 1990 NCCS defines primary care arrangements differently than the 1991 SIPP. According to the NCCS, a primary arrangement is that which is used for the most hours each week. Table 18 shows NHES:95 and NCCS estimates of primary arrangements according to this definition, for children whose mothers are employed.[11] It is important to note that according to the definition used here, the primary arrangement does not necessarily overlap most of the mothers' hours of employment each week, but simply occurs for the greatest hours each week. Another important difference from the SIPP data is that the NCCS does not consider school as a care arrangement for school-aged children.

In table 18, estimates of relative care as a primary arrangement are higher in the NHES:95 than the NCCS, particularly for children less than one year old. Among children less than one year old, the discrepancies in rates of participation in relative care at the children's own homes and at other homes (approximately 6 to 8 percentage points) are significant.[12] Differences in rates of participation in

[11]Note that the procedures used to identify primary arrangements in the NHES:95 and NCCS data are different. In the NCCS, the respondent identified the arrangement that took place for the most number of hours. For the NHES:95, the primary arrangement was identified by examining the number of hours each week reported for each arrangement, and then classifying the one with the highest number of hours as the primary arrangement.

[12]Recall that the methods for determining statistical significance of differences in percentage estimates between the NHES:95 and 1990 NCCS were described earlier in the section entitled Methods of Significance Testing.

relative care are smaller for the other age groups at only 2 to 4 percent, and only statistically significant for 3 and 4 year olds and 6 to 10 year olds in relative care in their own homes.

Data from both the NHES:95 and NCCS suggest that children of employed mothers very rarely receive primary care in their own homes from nonrelatives. Receipt of care from nonrelatives outside of children's own homes is a much more commonly reported primary arrangement in both studies. In the NCCS, arrangements called "family day care" are most equivalent to those called "nonrelative care in other homes" in the NHES:95. Estimates for these types of arrangements for children age 2 or younger are slightly higher in the NHES:95 (25-26 percent) than in the NCCS (20 percent), but this difference is statistically significant only for the 1 or 2 year olds. Estimates of nonrelative care outside of children's own homes are similar for the older age groups; by the time children reach school-age, the prevalence of this type of primary arrangement decreases to slightly under 10 percent in both studies.

As for center-based programs as primary arrangements, the NCCS yields a higher estimate for children less than 1 year old; however this difference is not statistically significant. Participation in primary center-based arrangements peaks at ages 3 and 4 according to both the NHES:95 and NCCS. Compared to the NCCS, the NHES:95 has a significantly higher estimate: 45 versus 37 percent. Estimates of center-based care as a primary arrangement are more similar for the other age groups (i.e., children 1 or 2 years old, and 5 years old or older), with differences ranging from 2 to 3 percent.

Children classified as not receiving nonparental care in the NHES:95 are the closest comparable group for comparison with NCCS children classified as receiving parent care as their primary arrangements. The data in table 18 show that the NCCS yields higher estimates of parent care than the NHES:95 estimates for no nonparental care. This is most likely because the NCCS allowed fathers to be classified as child care arrangements while the NHES:95 did not. For example, if a father is caring for a child for 30 hours each week and a grandmother is caring for 10 hours each week in place of maternal care, the NCCS would classify the father as the primary arrangement, but the NHES:95 would classify the grandmother. As a consequence, the NCCS should tend to have somewhat higher estimates of parent care compared to the NHES:95 estimates of no nonparental care. This is generally the case in table 18.

However, another difference between the NHES:95 and the NCCS that is especially relevant for estimates of primary arrangements for school-aged children is the fact that the NCCS regarded participation in lessons and clubs as arrangements that replace maternal care, but the NHES:95 did not.

These are included in the "Other" category which represents the primary arrangements of 19 percent of 6- to 10-year-olds in the NCCS. As a result, the NCCS estimates of primary care by relatives, nonrelatives, centers, and parents for 6- to 10-year-olds are relatively low compared to the NHES:95.

Another consideration is the different procedures used to identify the arrangement used for the most time each week. For the NCCS, the respondent identified the primary arrangement. For the NHES:95, the primary arrangement was identified by examining the number of hours each week reported for arrangements, and then classifying the arrangement with the highest number of hours as the primary arrangement.

Time spent in primary arrangements

Table 19 contains NHES:95 and NCCS estimates of the average number of hours per week spent in primary care arrangements or programs by children who have employed mothers and who participate in nonparental care. As mentioned earlier in the Methods for Significance Testing section, significance testing was not possible for differences in estimates of averages generated from the NCCS data, since information as to the variance of these estimates was not available. However, as described below, the standard errors of the NHES:95 estimates can be used to approximate the statistical significance of differences.

In table 19, both the NHES:95 and NCCS indicate that among children who participate in nonparental care, those who are of preschool age spend much more time per week in relative, nonrelative, and center-based care than do children of school-age. However, NHES:95 estimates of time spent in care by 0- to 4-year-olds are lower than those from the NCCS, particularly for nonrelative-other home/family day care arrangements and center-based arrangements. The NHES:95 estimates that among 0- to 4-year-olds participating in these types of care, an average of 33 hours per week is spent in nonrelative-other home care and an average of 30 hours per week is spent in center-based programs, while the NCCS estimates 37 hours per week for each of those arrangement types. As indicated above, the standard errors for these NCCS estimates of average hours were not available; however, if the statistical significance of these differences is approximated using the NHES:95 standard errors for both the NHES:95 and NCCS estimates,[13] the test indicates that these differences are significant.

[13]The estimated standard errors from the NHES:95 are 0.60 and 0.40 for nonrelative--other home and center-based arrangements, respectively.

Table 19.--NHES:95 and 1990 NCCS estimates of the average hours per week spent in primary care arrangements and programs among children with employed mothers, by child's age

Type of care arrangement[1]	Child's age	
	0 to 4 years old	5 to 10 years old[2]
NHES:95		
Relative	30.32 hours	14.28 hours
Nonrelative-child's home	27.56	14.01
Nonrelative-other home	32.59	14.55
Center-based program	30.34	15.26
1990 NCCS		
Relative	31.99 hours	12.84 hours
In-home provider	29.37	11.14
Family day care	37.41	15.71
Center	37.37	19.21

[1] Primary care arrangements and programs are those in which children were reported to spend the most hours per week.
[2] For the 1990 NCCS analysis, the upper age limit for this category is 12 years old.

NOTE: NCCS estimates are for the youngest child in the household. Estimates for the numbers of children are not presented because they are not available for the NCCS.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. *National Child Care Survey, 1990*. Urban Institute Report 91-5.

Among school-aged children who participate in nonparental care or programs, the NHES:95 and NCCS estimates of the average time spent in relative care and in nonrelative care at other homes (or family day care) are similar. The NHES:95 and NCCS suggest that 5- to 10-year-olds who participate in these care arrangements spend an average of about 13 or 14 hours per week with relatives and 15 or 16 hours per week in nonrelative care at other homes (or family day care). In contrast, the NHES:95 estimate of the average time spent in nonrelative care in children's own homes (14 hours per week) is slightly higher than the comparable NCCS estimate (11 hours). However, a significance test using the NHES:95 standard error[14] suggests that the difference is not statistically significant. Also, the NHES:95 estimate of the time school-aged children spend in centers (15 hours per week) is lower than that

[14]The NHES:95 standard error used in this test was 1.0.

estimated from the NCCS (19 hours). Using the NHES:95 standard error[15] in a significance test suggests that this difference is statistically significant.

There are a few reasons why the NHES:95 estimates of the average amount of time per week spent in primary arrangements would be different than those from the NCCS. One reason may be the way in which this information was collected from respondents. In the NHES:95, respondents were asked detailed questions about each arrangement separately, including the number of hours per week children participated in each arrangement. In contrast, the NCCS data on time spent in arrangements was collected through a "weekly schedule of care." Thus, NCCS respondents were asked to think about time spent in all arrangements together during the week and detail their children's weekly care schedules, while NHES respondents were asked to recall the time spent in each arrangement separately.

Another consideration for comparisons regarding school-aged children is that the NCCS published estimates actually included 11 and 12 year olds, while the oldest children for the NHES:95 estimates are 10-years-old. There were also differences in how primary arrangements were identified in the two studies. As mentioned above, the NCCS respondent identified the primary arrangement; but for the NHES:95, the primary arrangement was identified by examining the number of hours each week reported for arrangements, and then classifying the arrangement with the highest number of hours as the primary arrangement.

Group size and child/staff ratios

Table 20 shows NHES:95 and NCCS estimates of the average group size and the average child/staff ratio at different types of children's arrangements. Note that the NHES:95 data pertain to the first reported arrangement or program of each type and the NCCS data pertain to respondents' youngest children. It is also worth noting that, in both studies, estimates reflect parent respondents' *perceptions* of the number of children and adults present during the care arrangement.

The NHES:95 estimate of the group size at children's relative care arrangements is higher than the NCCS estimate. The NHES:95 data suggest that the average group size for children participating in relative care arrangements is two children.

[15]The NHES:95 standard error used for this test was 0.50.

Table 20.–NHES:95 and 1990 NCCS estimates of average group size and child/staff ratios

Type of care arrangement	Average group size	Average child/staff ratio
NHES:95		
Relative	2.02	1.63
Nonrelative-child's home	2.34	2.19
Nonrelative-other home	4.09	3.49
Center-based program	14.56	7.02
1990 NCCS		
Relative	1.37	1.37
In-home provider	1.50	1.50
Family day care	4.02	3.11
Center	15.25	6.55

NOTE: The NHES:95 data presented are for the first-reported arrangement or program of each type. The NCCS data presented pertain to the respondent's youngest child. For the NCCS, estimates of group size and child-staff ratios are identical for relative and in-home providers because these arrangements are defined as having one adult caregiver. Estimates of the number of children are not presented because they are not available for the NCCS.

SOURCES: U,S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995. *National Child Care Survey, 1990.* Urban Institute Report 91-5.

However, the NCCS estimates a slightly smaller average group size of 1.4 children, suggesting that group sizes for relative arrangements tended to consist of one child more often than two or more in the NCCS. The difference between estimates of child/staff ratios among children in relative arrangements is smaller: 1.6 from the NHES:95 versus 1.4 from the NCCS. As mentioned earlier, the statistical significance of estimates of averages could only be approximated using the NHES:95 standard errors. Doing so indicates that these differences are significant.[16]

Estimates of group size and child/staff ratios for children participating in nonrelative care settings in their own homes are also different between the two studies. On average, children are estimated to be in groups of 2.3 children according to the NHES:95 and in groups of 1.5 children according to the NCCS. The child/staff ratio for the average child in this type of care is also estimated to be higher by

[16]The standard error used was 0.03.

the NHES:95 than the NCCS: 2.2 compared to 1.5. Again, these differences are significant when approximated using NHES:95 standard errors.[17]

In contrast, the NHES:95 and NCCS estimates pertaining to children's nonrelative care arrangements outside of their own homes (or family day care) are very similar. Specifically, the NHES:95 estimated the group size to be 4.1 on average for children in this type of care and the NCCS estimated 4.0; the child/staff ratio was estimated to be 3.5 by the NHES:95 and 3.1 by the NCCS.

The NHES:95 and NCCS estimates of group size and child/staff ratios in center-based programs are also quite similar. The average number of children cared for together was estimated to be about 15 in both studies, while the average child/staff ratio at centers was estimated to be about 7 by the NHES:95 and the NCCS.

It is not clear why the estimated group sizes for children participating in relative and in-home nonrelative care would be somewhat higher in the NHES:95 than in the NCCS. One factor may be the fact that the NCCS estimates pertain to respondents' youngest children; group sizes may tend to be smaller when younger children are involved.

Literacy-related activities with family members

Table 21 presents estimates of the percent of preprimary children whose family members read to them in the past week and visited a library with them in the last month. Preprimary children are preschoolers (3- to 5-year-olds not yet in kindergarten), kindergartners, and home schoolers reported to be in the preschool or kindergarten grades.

The data in table 21 suggest that there has been an increase since 1993 in the percentage of preprimary children read to by family members three or more times per week. Specifically, there was a statistically significant increase from 78 percent to 83 percent between 1993 and 1995. In contrast, the percent of children who visited a library with family members has remained relatively stable at 39 percent in 1993 and 42 percent in 1995 (this difference is not statistically significant).

[17]The standard error used was 0.08.

Table 21.--NHES:95, NHES:93, and NHES:91 estimates of the percent of preprimary children whose family members read to them in the past week and visited a library with them in the last month

	NHES:95		NHES:93		NHES:91	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Number of preprimary children*(000's)	13,393	--	12,635	--	12,464	--
Read to child in past week						
Not at all	4	0.3	5	0.4	6	0.3
Once or twice	13	0.6	17	0.5	23	0.6
Three or more times	83	0.9	78	0.6	71	0.6
Visited library in last month	42	0.8	39	0.9	38	0.7

* Preprimary includes preschoolers (3- to 5-year-olds not yet in kindergarten), kindergartners, and home schoolers in grade equivalents of preschool or kindergarten.

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Surveys (NHES), spring 1995, 1993, and 1991.

Differences in questionnaire design should be kept in mind when comparing these estimates. In the NHES:93, there were two versions of the reading item that were each administered to half of the sample. One of those versions is the same as that used in the NHES:95. For this analyses, the answers to each version were combined together. Also, there was a slight change between 1993 and 1995 in the context in which the question regarding library visits was asked. In 1993, this item was a part of a list of activities and respondents were asked to indicate whether they had done each activity with their child in the past month; in 1995, this item was a question on its own.

Disability

NHES:95 and NHES:93 estimates of the prevalence of specific disabilities among 3- to 8-year-olds are shown in table 22. The estimates for each disability are very similar between the two studies. However, the NHES:95 generated estimates for the prevalence of learning disabilities, speech impairments, and "other" impairments that are 1 or 2 percent higher than those for the NHES:93. These differences are statistically significant. The estimates of visual impairments other than blindness are 1 percent lower in the NHES:95 than the NHES:93; this difference is also statistically significant.

Table 22.--NHES:95 and NHES:93 estimates of the percent of 3- to 8-year-old children with specific disabilities

Disability	NHES:95		NHES:93	
	Estimate	s.e	Estimate	s.e.
Number of 3- to 8-year-olds* (000's)	23,551	--	20,113	--
Learning disability	4	0.2	3	0.2
Mental retardation	<0.5	0.1	<0.5	0.1
Speech impairment	6	0.2	5	0.2
Serious emotional disturbance	1	0.2	1	0.1
Deafness	1	0.1	<0.5	<0.1
Another hearing impairment	1	0.1	1	0.1
Blindness	<0.5	<0.1	<0.5	0.1
Another visual impairment	2	0.2	3	0.2
An orthopedic impairment	1	0.1	1	0.1
Another health impairment lasting 6 months or more	5	0.3	3	0.2

* For the NHES:93, all 8-year-olds are in second grade or below.

NOTE: s.e. is standard error. Estimates that are greater than zero but do not round to 1.0 are shown as <0.5 (less than one-half). Estimates that are greater than zero but do not round to 0.1 are shown as <0.1.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995 and 1993.

When looking at estimates of the percent of children with *any* disability, the differences between the NHES:95 and NHES:93 estimates are much more striking than when examining specific disabilities. The substantial difference in question wording between these two studies is a very likely source of the differences in estimates. Table 23 illustrates the NHES:95 and NHES:93 question wording for items collecting information about disability adjacent to the corresponding estimates of the percent of children with any disability.

Table 23.--NHES:95 and NHES:93 estimates of the percent of 3- to 8-year-old children with at least one disability and with at least one disability that affects the ability to learn

Characteristic	Estimate	s.e.	Corresponding question wording
NHES:95			
Number of 3- to 8-year-olds* (000's)	23,551	--	
At least one disability	15	0.4	"Does (CHILD) have any of the following disabilities?"
At least one disability that affects ability to learn	5	0.2	[Asked if at least one disability:] "Do (CHILD)'s disabilities affect (his/her) ability to learn?"
NHES:93			
Number of 3- to 8-year-olds* (000's)	20,113	--	
At least one disability	12	0.3	"Has (CHILD) ever had any of the following disabling conditions that adversely affected (his/her) ability to learn? Has (he/she) ever had..." "Does (CHILD) have (DISABILITY) now?"

* In the NHES:93, all 8-year-olds are in second grade or below.

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995 and 1993.

As seen in the table, the NHES:95 estimate of the percent of children with any disability is 15 percent, compared to 12 percent according to the NHES:93. The 1995 data were gathered with the question "Does (CHILD) have any of the following disabilities?" In contrast, the 1993 question asked if the child "ever had any of the following disabling conditions that adversely affected (his/her) ability to learn." Follow-up questions determined if children currently had any of the disabilities indicated.

In the NHES:95, a separate question determined if any current disability affected children's ability to learn. The data from this item indicate that only 5 percent of children have disabilities that affect their abilities to learn. This is very different from the 12 percent estimate generated from the NHES:93 item in which the reference to the effect on the ability to learn was included in the disability question stem.

It appears that using a separate item in the NHES:95 to assess the effects of disabilities on learning yielded lower estimates because it focused respondents on that single issue. In the NHES:93, respondents were presented with multiple cognitive tasks within the single question, and may not have kept the specific criteria, "adversely affected (his/her) ability to learn," in mind throughout the list of disabilities about which they were asked.

Mothers' characteristics and household income

Table 24 provides NHES:95, NHES:93, and NHES:91 estimates of mother's highest education, mother's employment status, and household income for preschoolers and school-age children. The NHES:95 estimates of mother's educational attainment suggest that mothers in the NHES:95 are slightly more educated than mothers in previous NHES studies. Specifically, the percentage of NHES:95 mothers with at least a college degree is approximately 22 percent, compared to 17 to 18 percent in the NHES:93 and NHES:91. This differential is primarily observed at the college graduate level, where the differences between the NHES:95 estimates and estimates from previous NHES surveys are statistically significant. The estimated percentages of NHES:95 mothers who have received at least some graduate or professional school education are not significantly different from the percentages estimated from previous NHES survey data.

Estimates of mother's employment status for preschoolers and school-age children are very similar across the NHES surveys. However, NHES:95 mothers of preschoolers are significantly more likely to be employed full-time than those in the NHES:93. In the NHES:95, 36 percent of preschoolers' mothers were reported to be working 35 hours or more per week, compared to 32 percent in the NHES:93.

Congruent with the differences observed concerning mother's education, in the NHES:95 there were significantly higher percentages of children living in households earning $50,000 to $75,000 and $75,000 or more. Looking across these categories at the percentage of children living in households earning $50,000 per year or more: in the NHES:95, 26 to 28 percent of children fell into these categories, compared to 19 to 21 percent of children in the NHES:93 and NHES:91. Note that none of these income estimates are adjusted for inflation.

Table 24.--NHES:95, NHES:93 and NHES:91 estimates of maternal education, maternal employment, and household income for preschoolers and school-aged children

	NHES:95					NHES:93				
	Number of children* (000's)	Preschooler		School-age		Number of children* (000's)	Preschooler		School-age	
		Percent	s.e.	Percent	s.e.		Percent	s.e.	Percent	s.e.
Mother's highest education										
Less than high school	5,044	12	0.7	13	0.5	2,423	12	0.6	12	0.5
High school/high school equivalency	12,900	36	1.0	36	0.7	7,680	39	0.9	39	0.9
Vocational/technical or some college	10,603	30	0.9	30	0.7	6,145	31	0.8	31	0.7
College graduate	5,173	14	0.7	14	0.5	2,050	11	0.5	10	0.4
Graduate or professional school	2,922	8	0.5	8	0.3	1,337	7	0.4	7	0.3
Mother's employment status										
Working 35 hours per week or more	13,171	36	1.0	39	0.6	6,908	32	0.7	37	0.7
Working less than 35 hours per week	7,327	21	0.8	21	0.7	4,203	21	0.6	22	0.6
Looking for work	2,457	6	0.6	5	0.4	1,328	7	0.5	7	0.5
Not in labor force	13,686	37	1.2	34	0.7	7,197	40	0.9	34	0.8
Household income										
$10,000 or less	7,311	19	0.7	18	0.5	3,693	18	0.5	18	0.4
$10,001 to $20,000	4,893	13	0.5	12	0.4	3,616	18	0.6	18	0.6
$20,001 to $30,000	6,031	16	0.7	17	0.5	3,554	18	0.8	18	0.7
$30,001 to $40,000	5,417	14	0.7	15	0.6	3,084	16	0.5	15	0.5
$40,001 to $50,000	4,122	11	0.5	11	0.5	2,077	10	0.4	11	0.5
$50,001 to $75,000	5,542	15	0.6	16	0.5	2,486	12	0.5	13	0.4
More than $75,000	4,080	11	0.6	12	0.4	1,602	8	0.4	8	0.5

Table 24. --NHES:95, NHES:93 and NHES:91 estimates of maternal education, maternal employment, and household income for preschoolers and school-aged children--Continued

	NHES:91				
	Number of children* (000's)	Preschooler		School-age	
		Percent	s.e.	Percent	s.e.
Mother's highest education					
Less than high school	3,194	14	0.7	15	0.6
High school/high school equivalency	8,427	38	0.7	39	0.6
Vocational/technical or some college	6,331	29	0.7	29	0.7
College graduate	2,514	12	0.5	11	0.4
Graduate or professional school	1,372	6	0.4	6	0.3
Mother's employment status					
Working 35 hours per week or more	7,943	34	0.8	38	0.6
Working less than 35 hours per week	5,025	23	0.7	23	0.6
Looking for work	1,385	6	0.5	6	0.4
Not in labor force	7,486	37	0.8	33	0.7
Household income					
$10,000 or less	4,025	18	0.5	18	0.3
$10,001 to $20,000	3,776	17	0.5	17	0.4
$20,001 to $30,000	4,461	20	0.6	20	0.5
$30,001 to $40,000	3,447	16	0.5	15	0.4
$40,001 to $50,000	2,552	11	0.4	12	0.4
$50,001 to $75,000	2,650	12	0.5	12	0.3
More than $75,000	1,558	7	0.4	7	0.4

*Preschoolers includes ages 3 and older, not in kindergarten; school-age includes kindergartners and primary school children.

NOTE: s.e. is standard error.

SOURCES: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1995, 1993 and 1991.

It is not clear why these differences in estimates were observed between NHES studies. Differences in questionnaire design are not the likely source of the disparities in estimates of mothers' characteristics, since the wording of the items gathering data on mothers' educational attainment and employment statuses were identical across studies. In contrast, the wording of questionnaire items gathering household income data did vary across surveys, but only slightly. Also, the household income item was asked in the Screener in the NHES:91 but asked at the end of the extended interviews in the NHES:93 and NHES:95. However, this does not help to explain differences in NHES:93 and NHES:95 estimates.

One possible explanation for the differences may be the relatively high nonresponse rate in the NHES:95 screening interview or the NHES:95 weighting procedures. The response rate for household screening in the NHES:95 was about 9 percent lower than the corresponding rate in the NHES:93. If the households that did not respond were not the same in terms of income and education levels for the two surveys, then nonresponse bias could be a factor in the differences. Weights that were developed to help reduce such bias were used in these analyses; however, weighting procedures cannot entirely eliminate nonresponse bias that may exist. Also, the control totals used for weighting the NHES:95 data only discriminated those households with incomes above and below $10,000. In previous NHES studies a third category of $25,000 was used. A similar three-category income dimension was also initially used in the raking procedures for the NHES:95. However, it was found that when this three-level dimension was used, some large weighting adjustments resulted. To reduce the variability in the weights when using income as a raking dimension, the number of levels in the income dimension was reduced to two levels.

Early Childhood Program Participation Component Comparisons Summary

Estimates from the NHES:95 regarding children's early educational experiences and participation in nonparental care and programs are generally quite similar to comparable estimates from other surveys. Differences in estimates that were observed were primarily attributed to differences in the wording of the questions or in the operational definitions involved in gathering the data in the different studies.

The estimates of school enrollment and grade level from the NHES:95 and CPS are one example where question wording did make a difference in the comparability of estimates for preschoolers. Otherwise, these estimates were quite similar between the two studies. Estimates between the NHES:95 and CPS were also similar with respect to enrollment in public and private schools. In contrast, there

were differences observed between NHES:95 estimates of grade repetition and those from previous NHES surveys. NHES:95 estimates of grade repetition by first and second graders tended to be slightly lower than those from the NHES:93 and the NHES:91. Potential reasons for these differences are not apparent, but may include the fact that the NHES:95 includes more children from relatively high-income households and mothers with relatively high educational attainment than did the previous NHES studies.

Many of the NHES:95 estimates regarding children's participation in nonparental care and programs were similar to those from the NCCS, the SIPP and previous NHES studies. This was true for comparisons of NHES:95, NHES:93, and NHES:91 estimates of preschoolers' participation by some family characteristics. In contrast, considerable differences were observed in estimates of participation in relative and nonrelative care between the NHES:95 and the 1992 CPS; this was largely attributed to differences in questionnaire design.

Comparisons of estimates of children's participation in primary arrangements, as defined by the NCCS and the SIPP, also indicated that the NHES:95 data are similar to data obtained from those two studies. The first such comparison made pertained to infants and toddlers, an age group never before included in the NHES. Compared to the NCCS, the NHES:95 estimates of primary arrangements for infants and toddlers were quite similar. NHES:95 and SIPP estimates of main arrangements among children with employed mothers were extremely close, which is not surprising given that the data for each study were obtained from virtually identical questionnaire items. The NHES:95 and NCCS estimates regarding primary arrangements among children with employed mothers differed more so, but the largest discrepancies are most likely due to differences in the operational definitions of care arrangements, and also more specifically, in procedures utilized to identify children's primary arrangements.

The results of comparisons pertaining to the amount of time children spend in arrangements were mixed. Several of the estimates between studies were similar; however, the NCCS yielded higher estimates of time spent in nonrelative care outside of children's own homes and in centers among preschool aged children and a higher estimate of time spent in centers among school-aged children. There are several potential sources for differences in these estimates, the most important of which may be differing methods of collecting the data on time spent in care arrangements.

Results were also mixed regarding comparisons of group size at children's arrangements. Compared to the NCCS, the NHES:95 generated higher estimates of the group sizes at children's relative and in-home nonrelative care arrangements but more similar estimates at nonrelative arrangements outside

of children's own homes and at centers. Potential reasons for these differences are ambiguous, but may include the fact that the published NCCS estimates were limited to respondents' youngest children who may tend to experience smaller group sizes. A few differences in estimates of child-staff ratios were observed but were relatively small.

Comparisons of NHES:95 and NHES:93 estimates also indicated an increase in the percent of family members reading to preschoolers and kindergartners at home. On the other hand, the percent of children reported to have visited a library in the past month with family members remained steady in the NHES:93 and NHES:95 studies. Some small differences in questionnaire design may be influencing the comparability of these estimates. In the NHES:93 and NHES:95 there are also substantial differences in the design of questions gathering data on children's disabilities. This is regarded as the primary reason for significant differences in estimates of children with any disability. Any observed differences with respect to estimates of specific disabilities were very small.

Finally, comparisons of estimates of mothers' and household characteristics between the NHES:95, NHES:93, and NHES:91 indicate that the NHES:95 data include more children with more highly educated mothers and congruently, more children living in relatively high-income households. Potential reasons cited for these differences included a relatively high nonresponse rate obtained when screening households for the NHES:95 and the weighting procedures used for the study.

Bibliography

Bradburn, N. M. (1983). Response Effects. In Peter H. Rossi, James D. Wright, and Andy B. Anderson (Eds.). *Handbook of Survey Research*. Orlando, Florida: Academic Press, Inc.

Brick, J. M. (forthcoming). *Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey*, NCES Working Paper. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Casper, L. M., Hawkins, M., and O'Connell, M. (1994). *Who's Minding the Kids? Child Care Arrangements: Fall 1991*, U.S. Bureau of the Census, Current Population Reports, P70-36, U.S. Government Printing Office, Washington DC.

Collins, M.A., Brick, J.M., and Kim, K. (forthcoming). *Measuring Participation in Adult Education*. NCES Technical Report. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.

Groves, R. M. (1989). *Survey Errors and Survey Costs*. New York: John Wiley & Sons, Inc.

Groves, R. M. and Kahn, R. L. (1979). *Surveys by Telephone*. New York: Academic Press.

Hofferth, S. L., Brayfield, A., Deich, S., and Holcomb, P. (1991). *National Child Care Survey, 1990*. Urban Institute Report 91-5. Washington, DC: The Urban Institute Press.

Kim, K., Collins, M. A., Stowe, P., and Chandler, K. (1995). *Forty percent of adults participate in adult education activities: 1994-95*. Washington, D.C.: Department of Education, Office of Educational Research and Improvement.

Thornberry, O. T. Jr, and Massey, James T. (1988). Trends in United States Telephone Coverage Across Time and Subgroups. In Groves, Robert M. et al. (Eds.). *Telephone Survey Methodology*. New York: John Wiley & Sons, Inc.

U.S. Department of Education, Division of Adult Education and Literacy, Office of Adult and Vocational Education. (1993). *Adult Education Program Facts, 1992-1993*. Washington, D.C.

U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics. (1994). *Digest of Education Statistics 1994*. (NCES 94-115). Washington, D.C.

Appendix A

Summary of Comparative Data Sets

Current Population Survey,
School Enrollment Supplement

TITLE	Current Population Survey, School Enrollment Supplement (CPS)
PURPOSE	The purpose of the Current Population Survey is to provide estimates of employment, unemployment, and other characteristics of the labor force, the population at large, and various subgroups of the population. The October School Enrollment Supplement provides specific information on the enrollment status of individuals in the population by demographic and socioeconomic characteristics.
SPONSORSHIP	The supplement has been jointly sponsored by the Bureau of Labor Statistics and the Bureau of the Census, with data collection conducted by the Census Bureau. Occasionally, the Department of Education sponsors additional questions.
DESIGN	The Current Population Survey (CPS) is designed to be representative of the civilian, noninstitutionalized population of the United States, including Armed Forces personnel living off base or on base with their families. The CPS uses a probability sample based on a multistage stratified sampling scheme. In general, the sample is selected by (a) grouping counties or groups of counties into primary sampling units (PSUs) that are assembled into homogeneous strata; (b) selecting one PSU to represent each strata; and (c) selecting addresses within each PSU for membership in the sample. No oversampling is done of minority or low-income areas. The total sample size is approximately 71,000 households per month; about 57,000 households are successfully interviewed. The household respondent must be a knowledgeable household member aged 14 years or more; this respondent provides information for each household member. The questions in the school enrollment supplement are asked about all persons aged 3 or more in the household. The sample size for children in each one-year age group is approximately 2,000. Response rates for the CPS are not calculated on a monthly basis. However, according to a source at the Demographic Surveys Division of the Census Bureau, the level of nonrepsonse for the monthly CPS labor force survey is about 5 to 6 percent, and the nonresponse level for supplements is about 4 to 5 percent.
PERIODICITY	The supplement has been conducted each October since 1946. Plans include retaining this supplement in the future.
CONTENT	The basic school enrollment supplement contains questions on enrollment status, grade or level, and type of school (public or private). For preschool children, the question of enrollment in nursery school/preschool is explored, but enrollment in other child care programs is not. The October 1992 supplement gathered information on child care and educational experiences.

LIMITATIONS

The definition of enrollment in an educational program as enrollment in "nursery school" is problematic at this time. Most child care programs for 3- and 4-year-olds have an educational component, but parents may not classify the program as "nursery school" or "preschool." Consequently, there are no data on children in settings other than "nursery school" or "preschool," and there is probably an undercounting of enrollment in these "educational" programs for this age group. Experience obtained through the NHES suggests that parents are not consistent in classifying day care centers as "school."

The child care information collected in the October 1992 supplement is very limited as far as the population of children addressed and the extent of information collected. The child care items are asked for all children age 0- to 2-years-old and for children age 3 to 14 if they are not currently enrolled in school. Thus, no child care information is collected for children currently in school. The extent of information collected is limited to children's participation status in each type of arrangement (i.e., relative care, nonrelative care, and center-based) and whether home-based arrangements take place in the child's home or another home.

AVAILABILITY

The Census Bureau usually releases reports on supplement data approximately 3 to 6 months after data collection, and final reports within 12 to 18 months. Published tabulations on school enrollment are available in the Current Population Reports, Series P-20.

Public use microdata files are available from the Bureau of the Census for months in which there is a supplement; these files are usually made available within 6 months to 1 year after data collection.

For information about the availability of data for a particular month, contact

Census Customer Services
U.S. Bureau of the Census
Washington, D.C. 20233
301/457-4100

For further information on the content of CPS files, contact

Current Population Surveys Branch
Demographic Surveys Division
U.S. Bureau of the Census
Washington, D.C. 20233
301/457-3811

For further information on the October supplement, contact

Bob Kominski or Wendy Bruno
Population Division
U.S. Bureau of the Census
Washington, D.C. 20233
301/457-2120 (Bob Kominski)
301/457-2464 (Wendy Bruno)

National Child Care Survey

TITLE	National Child Care Survey (NCCS), 1990
PURPOSE	The three main purposes were: (1) to describe existing patterns of parental employment and use of child care and other early childhood programs, (2) to examine how personal characteristics and preferences of parents, as well as the characteristics of child care options available to them, are linked to their child care choices, and (3) to describe the characteristics of out-of-home care for these children, focusing particularly on family day care.
SPONSORSHIP	The sponsoring organization was the National Association for the Education of Young Children, and the sponsoring agency was the Administration for Children, Youth and Families. The two organizations jointly funded the Urban Institute to conduct the study.
DESIGN	NCCS consisted of three different data-gathering efforts, including (1) a telephone survey of a nationally representative sample of households with children under age 13 (the Parent Survey), (2) interviews with a subsample of providers of child care/early childhood education for the children in this national sample, identified by their parents (the Linked Provider Study), and (3) interviews with a representative sample of providers of care in their own homes identified through screening households for the parental survey (the Family Day Care Home Study).

National Child Care Survey, Parent Survey. The telephone survey included interviews with 4,392 households in 100 primary sampling units (PSUs). The main sample included about 1,500 households with a youngest child under 3 years, 1,500 households with a youngest child between 3 and 5, and 1,500 households with a youngest child between 6 to 12 years. In addition, about 1,000 low-income households with children were oversampled; approximately 330 of these households had youngest children in each of the three age groups defined above. Most families in the oversample were black or Hispanic. Respondents were located through a random digit dialing (RDD) method and interviews were conducted using computer assisted telephone interviewing (CATI). The overall response rate for the parent survey was 57 percent.

Linked Provider Study. Data were gathered by asking parents to provide telephone numbers of their center-based and family day care providers. Approximately 250 of these providers were interviewed.

Family Day Care Home Study. Approximately 162 individuals who provided care in their homes were identified and interviewed. The interviews were conducted with the same instrument used for the family day care providers identified by parents.

PERIODICITY

The survey was conducted once, beginning in late October 1989 and ending in May 1990. No updates or related collection efforts are planned at present.

CONTENT

The National Child Care Survey examined information on usage of child care and preschool programs, including scheduling, type of arrangement, factors determining arrangement, cost of care, an assessment of the quality of care, characteristics of alternative child care arrangements, and employment characteristics of parents, including type of employment, employment history, and availability and type of benefits.

LIMITATIONS

This survey was conducted only one time; it will not provide a monitor over time for patterns of child care preferences or for characteristics of child care settings.

AVAILABILITY

The final report, "The National Child Care Survey, 1990" and related reports, "Caring for Children in Low Income Families," and "Family Day Care in the U.S., 1990" are available from The Urban Institute. The Demand and Supply of Child Care in 1990: Joint Findings from the NCCS and PCS is available from the National Association for the Education of Young Children. The data are available from Sociometric Corporation, Los Altos, CA.

Information on the project is available from

Dr. Sandra Hofferth
Institute for Social Research
University of Michigan
Ann Arbor, MI 48106-1248

Survey of Income and Program Participation

TITLE	Survey of Income and Program Participation -- Child Care Topical Module (SIPP)
PURPOSE	The child care topical module to SIPP is designed to establish an ongoing data base of child care statistics at the national level.
SPONSORSHIP	The topical module is funded and conducted by the U.S. Bureau of the Census. An Advisory Panel with representatives from selected Federal agencies oversees the questionnaire design and decides the frequency of interviewing.
DESIGN	The SIPP survey is based on a multistage stratified sample of the noninstitutional resident population of the U.S. The survey universe includes persons living in households plus those persons living in group quarters such as dormitories and rooming houses. The first stage of sampling involves the definition of primary sampling units (PSUs), which are counties or groups of counties. Those with similar key socioeconomic characteristics are grouped together into strata, and one sample PSU is selected from each stratum. The PSUs used for SIPP are a subsample of those used in the Current Population Survey (CPS). The second stage of sampling is the selection of households. To arrive at this sample, geographic units called "enumeration districts" (EDs), with an average of 350 housing units, are sampled from each PSU. Within each selected ED, two or four living quarters or "ultimate sampling units," are systematically selected. The topical module on child care is asked of respondents who are the designated parents or guardians of children under 15 who are living in the sampled household. In the first administration of the module (1984 panel, wave 5), the respondents (usually mothers) had to be employed outside the home. In subsequent panels, the respondents were either working or enrolled in school. The questions asked of respondents in each panel pertain only to the three youngest children living in the household under 15 years of age. Child care data concerning approximately 5,400 children have been collected at each time of administration. The response rate for Wave 3 of the 1991 SIPP Child Care Module (conducted in October 1991-January 1992) was 82 to 85 percent, depending upon the interview month.

Survey of Income and Program Participation--Continued

PERIODICITY

The first SIPP panel began in 1984 and a new panel has been introduced in the February of each subsequent year, from 1985 to 1993. For each panel, the child care module has been administered in at least one wave of the survey. Each wave of interviewing is consecutive and lasts four months: Wave 1 begins in February and ends in May; Wave 2 begins in June and ends in September; etc. Each household in a panel is interviewed once each wave, so that each household is interviewed once every four months over a period of three years. The child care module was administered for each panel as follows: 1984 panel, wave 5; 1985 panel, wave 6; 1986 panel, waves 3 and 6; 1987 panel, waves 3 and 6; 1988 panel, waves 3 and 6; 1989 panel, wave 3; 1990 panel, wave 3; 1991 panel, wave 3; 1992 panel, waves 6 and 9; 1993 panel, waves 3, 6, and 9.

CONTENT

The child care module obtains basic information on child care arrangements for children during the time when respondents are working or are in school. Questions specifically concern the month prior to the interview. For each of the three youngest children, the respondent is asked about the main type of arrangement used (that is, the one where the child was cared for during most of the hours that the respondent worked or was in class), when the child was usually cared for under the arrangement, and the number of hours per week the child usually spent in the arrangement. Information about the type and location of the second major type of arrangement is also gathered. Respondents are then asked about the total cost of child care arrangements in a typical week, and whether they have made any noncash payments. They are also asked if either they or their spouse have lost time from work because the person responsible for taking care of their child or children was not available.

LIMITATIONS

The data regarding child care are not representative of all children since the SIPP child care module is only administered when the respondent (usually the mother) is employed or in school. Arrangements made by families in which the mother is at home are not considered. In addition, the care arrangements discussed are only those that overlap the respondent's hours of employment or school.

With no oversampling of minorities or low-income families, analyses by race/ethnicity are problematic. Estimates may have large standard errors.

Analyses of the SIPP data published by the Census Bureau sometimes focus on the youngest child in the family, somewhat limiting the sample size.

SIPP questions do not cover educational aspects of the home or child care setting.

AVAILABILITY

At the time this report was prepared, the most recent published results available from the SIPP regarding child care arrangements were derived from Wave 3 of the 1991 panel. Results from other administrations of the child care module since 1984 are also available.

Analyses based on the child care module from the 1984 panel have appeared in the Census Bureau's Current Population Reports ("Who's Minding the Kids? Child Care Arrangements: Winter 1984-1985," P-70, No. 9). Analyses based on the next four administrations are included in a second Current Population Report entitled "Who's Minding the Kids? Child Care Arrangements: Winter, 1986-87," Series P-70, No. 20. Analyses based upon child care module of the 1991 panel appear in a Current Population Report entitled "Who's Minding the Kids? Child Care Arrangements: Fall 1991," Series P70-36.

Questions about data products and their availability should be directed to

Carmen Campbell
Customer Services Branch
Data User Services Division
U.S. Bureau of the Census
Washington, DC 20233
301/457-4100

For current information on SIPP reports contact SIPP staff, 301/763-7958. For substantive questions on the child care topical module, contact

Dr. Martin O'Connell
Fertility Statistics Branch, Room 2343
Population Division
U.S. Bureau of the Census
Washington, DC 20233
301/457-2416

National Household Education Survey

TITLE	National Household Education Survey (NHES), 1991, 1993, 1995 Splice Sample Interview
PURPOSE	The purpose of the NHES is to provide descriptive data on the educational activities of the U.S. population and offer policy makers, researchers, and educators a variety of statistics on the condition of education in the U.S. The NHES is designed to collect education-related information from households and individuals, rather than educational institutions such as schools or universities. The NHES collects data on high priority topics on a rotating basis. One of the goals of the NHES is to produce reliable estimates of the characteristics of children's and adults' educational experiences for the total targeted population and for domains defined by race and ethnicity.
SPONSORSHIP	The NHES is sponsored by the National Center for Education Statistics of the U.S. Department of Education.
DESIGN	The NHES is a telephone survey of the noninstitutionalized civilian population of the U.S. Households are selected for the survey using random digit dialing (RDD) methods. Data are collected using computer assisted telephone interviewing (CATI) procedures. The methodology for any single fielding of the NHES is linked to the research issues under study, the level of data required to address these issues, and how precise the estimates generated from the survey data need to be in order to meet the objectives of the study. However, while the specifications for each annual survey will vary, there are general features of the NHES methodology that stay relatively constant from one survey to the next. Although the sample size for a particular component of the survey may vary somewhat from year to year, between 45,000 and 65,000 households are screened for the NHES. Because of the high costs associated with screening large numbers of households, more than one population and set of issues has been addressed concurrently in each NHES data collection. The design of the NHES allows for the collection of data in two ways: 1) from individual household members who provide information about their own educational activities; and 2) from a single knowledgeable adult household member who provides information about other household members' activities. The NHES sample design oversamples areas with high minority residency in order to increase the reliability of estimates for these groups. The response rates for the NHES components used in this report are as follows: NHES:91 Adult Education, 69 percent; NHES:91 Early Childhood Education, 77 percent; NHES:93, School Readiness, 74 percent; NHES:95 Adult Education Splice Interview, 64 percent.

PERIODICITY

The first full-scale NHES was implemented in the spring of 1991, the second was conducted in the spring of 1993, and the third in the spring of 1995.

CONTENT

The topics addressed by the NHES:91 were early childhood education and adult education; data from both these components are used in this report. For the Early Childhood Education component, about 14,000 parents/guardians of 3- to 8-year-olds completed interviews about their children's educational experiences. Some of the topics included in this component were participation in nonparental care/education, characteristics of programs and care arrangements, and early school experiences including delayed kindergarten entry and retention in grade. Information on family, household, and child characteristics was also collected.

The NHES:91 Adult Education component interviewed about 9,800 persons aged 16 years or older identified as having participated in an adult education activity in the previous 12 months. The information collected on programs and up to four courses included the subject matter, duration, sponsorship, purpose, and cost. A smaller sample of nonparticipants (about 2,800) also completed interviews about barriers to participation. Information on the household and the adult's background and current employment was also collected.

The NHES:93 addressed the topics of school readiness and school safety and discipline. Data from the School Readiness component are used in this report. The School Readiness component contains approximately 11,000 completed interviews by parents of 3- to 7-year-olds. Some of the topics included in this component were center-based program participation, early school experiences, and home activities with family members. Extensive information on family and child background characteristics, including parent education, household composition, and household income, was also collected.

The NHES:95 Splice Sample Interview was conducted to evaluate the difference in the AE participation rates as estimated from the NHES:91 and the NHES:95, especially due to the different screening procedures in these surveys. The initial questions of the NHES:91 AE component were asked of the sampled adults.

LIMITATIONS

This survey is limited to households with telephones. Efforts have been made to adjust for this by providing weights that sum to the total number of children (of the eligible age range for the study) in all U.S. households based on estimates from the Census Bureau's Current Population Survey.

AVAILABILITY

Both the 1991 and 1993 NHES data sets are available to the public on CD-ROM. The CD-ROM also contains an electronic codebook and WordPerfect files containing documentation on all components in both studies. Several NCES reports using data from these studies are also available, including "Profile of Preschool Children's Child Care and Early Education Program Participation" (NCES 93-133) and "Approaching Kindergarten: A Look at Preschoolers in the United States" (NCES 95-280).

Information on the project is available from

Kathryn A. Chandler
National Center for Education Statistics
555 New Jersey Avenue, N.W.
Washington, D.C. 20208-5651
202/219-1767

Integrated Postsecondary Education Data System

TITLE	Integrated Postsecondary Education Data System (IPEDS), Fall Enrollment Survey
PURPOSE	The purpose of the IPEDS data base is to provide basic institutional data for the universe of non-profit colleges and universities (public and private) and for a sample of for-profit postsecondary institutions. The purpose of the Fall Enrollment Survey is to measure student access to postsecondary education. The Department of Education uses enrollment data for program planning and for setting funding allocation standards for legislatively controlled programs. The Office of Civil Rights uses the data to perform functions mandated by Title VI and Title IX and assist in the monitoring of desegregation plans. Other Federal and state agencies use enrollment data in policymaking decisions, economic and financial planning, manpower forecasting, and policy formulation.
SPONSORSHIP	The survey is sponsored by the U.S. Department of Education's Office of Educational Research and Improvement, National Center for Education Statistics.
DESIGN	IPEDS surveys all institutions offering awards at the bachelor's level and above, all two-year institutions, all public institutions of less than two years, and a sample of private less-than-two-year schools. The response rate for the 1992-1993 survey used in this report was 93.6 percent.
PERIODICITY	The survey is conducted annually during the fall and includes students who have completed programs as of October 15.
CONTENT	The survey seeks information on institutional characteristics, opening fall enrollment, faculty salaries, degree awarded, and financial statistics.
LIMITATIONS	The survey is of limited use for studying adult education participation because the primary focus is on enrollment in two- and four-year colleges and universities. While a few questions cover part-time students and enrollment in occupationally specific programs, they do not ask about adult basic education, GED preparation classes, ESL classes, apprenticeships, work-related training courses, or other formal structured courses.

More information on this survey is available from

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202/219-1359

Listing of NCES Working Papers to Date

Please contact Ruth R. Harris at (202) 219-1831
if you are interested in any of the following papers

Number	Title	Contact
94-01 (July)	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94-02 (July)	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94-03 (July)	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94-04 (July)	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94-05 (July)	Cost-of-Education Differentials Across the States	William Fowler
94-06 (July)	Six Papers on Teachers from the 1990-91 Schools and Staffing Survey and Other Related Surveys	Dan Kasprzyk
94-07 (Nov.)	Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association	Carrol Kindel
95-01 (Jan.)	Schools and Staffing Survey: 1994 Papers Presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95-02 (Jan.)	QED Estimates of the 1990-91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95-03 (Jan.)	Schools and Staffing Survey: 1990-91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk
95-04 (Jan.)	National Education Longitudinal Study of 1988: Second Follow-up Questionnaire Content Areas and Research Issues	Jeffrey Owings
95-05 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors	Jeffrey Owings

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
95-06 (Jan.)	National Education Longitudinal Study of 1988: Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data	Jeffrey Owings
95-07 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
95-08 (Feb.)	CCD Adjustment to the 1990-91 SASS: A Comparison of Estimates	Dan Kasprzyk
95-09 (Feb.)	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95-10 (Feb.)	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk
95-11 (Mar.)	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
95-12 (Mar.)	Rural Education Data User's Guide	Samuel Peng
95-13 (Mar.)	Assessing Students with Disabilities and Limited English Proficiency	James Houser
95-14 (Mar.)	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng
95-15 (Apr.)	Classroom Instructional Processes: A Review of Existing Measurement Approaches and Their Applicability for the Teacher Follow-up Survey	Sharon Bobbitt
95-16 (Apr.)	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95-17 (May)	Estimates of Expenditures for Private K-12 Schools	Stephen Broughman
95-18 (Nov.)	An Agenda for Research on Teachers and Schools: Revisiting NCES' Schools and Staffing Survey	Dan Kasprzyk
96-01 (Jan.)	Methodological Issues in the Study of Teachers' Careers: Critical Features of a Truly Longitudinal Study	Dan Kasprzyk

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-02 (Feb.)	Schools and Staffing Survey (SASS): 1995 Selected papers presented at the 1995 Meeting of the American Statistical Association	Dan Kasprzyk
96-03 (Feb.)	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
96-04 (Feb.)	Census Mapping Project/School District Data Book	Tai Phan
96-05 (Feb.)	Cognitive Research on the Teacher Listing Form for the Schools and Staffing Survey	Dan Kasprzyk
96-06 (Mar.)	The Schools and Staffing Survey (SASS) for 1998-99: Design Recommendations to Inform Broad Education Policy	Dan Kasprzyk
96-07 (Mar.)	Should SASS Measure Instructional Processes and Teacher Effectiveness?	Dan Kasprzyk
96-08 (Apr.)	How Accurate are Teacher Judgments of Students' Academic Performance?	Jerry West
96-09 (Apr.)	Making Data Relevant for Policy Discussions: Redesigning the School Administrator Questionnaire for the 1998-99 SASS	Dan Kasprzyk
96-10 (Apr.)	1998-99 Schools and Staffing Survey: Issues Related to Survey Depth	Dan Kasprzyk
96-11 (June)	Towards an Organizational Database on America's Schools: A Proposal for the Future of SASS, with comments on School Reform, Governance, and Finance	Dan Kasprzyk
96-12 (June)	Predictors of Retention, Transfer, and Attrition of Special and General Education Teachers: Data from the 1989 Teacher Followup Survey	Dan Kasprzyk
96-13 (June)	Estimation of Response Bias in the NHES:95 Adult Education Survey	Steven Kaufman
96-14 (June)	The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component	Steven Kaufman
96-15 (June)	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-16 (June)	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96-17 (July)	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
96-18 (Aug.)	Assessment of Social Competence, Adaptive Behaviors, and Approaches to Learning with Young Children	Jerry West
96-19 (Oct.)	Assessment and Analysis of School-Level Expenditures	William Fowler
96-20 (Oct.)	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96-21 (Oct.)	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96-22 (Oct.)	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
96-23 (Oct.)	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96-24 (Oct.)	National Assessments of Teacher Quality	Dan Kasprzyk
96-25 (Oct.)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
96-26 (Nov.)	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman
96-27 (Nov.)	Intersurvey Consistency in NCES Private School Surveys for 1993-94	Steven Kaufman
96-28 (Nov.)	Student Learning, Teaching Quality, and Professional Development: Theoretical Linkages, Current Measurement, and Recommendations for Future Data Collection	Mary Rollefson
96-29 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler

Listing of NCES Working Papers to Date--Continued

Number	Title	Contact
96-30 (Dec.)	Comparison of Estimates from the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler

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